

MOTION PICTURE HERALD

Better Theatres

GUIDE *number*

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AND BEST-SELLERS**



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ISSUED AS SECTION 2 OF
MOTION PICTURE HERALD
OF MARCH 21, 1953

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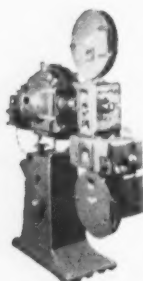
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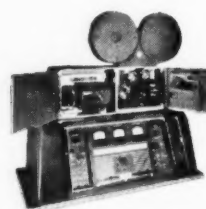
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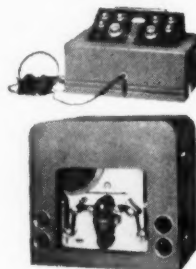
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Contents 1953

Better Theatres GUIDE *number*

A classified digest of articles of lasting value in *Better Theatres* from March 1952 through February 1953; and of purchasing data on 1953 lines of theatre equipment, materials and supplies, and of refreshment service equipment and merchandise.

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and
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1953 SURVEY

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Better Theatres is published the first week of each month, with the regular monthly issues, and an annual edition, the Market & Operating Guide, which appears in March, issued as Section Two of Motion Picture Herald.

GEORGE SCHUTZ, Editor



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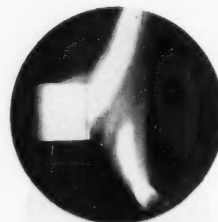
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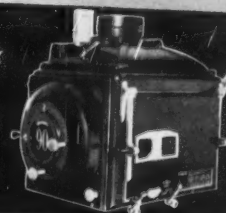
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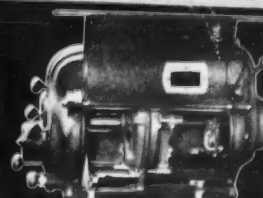
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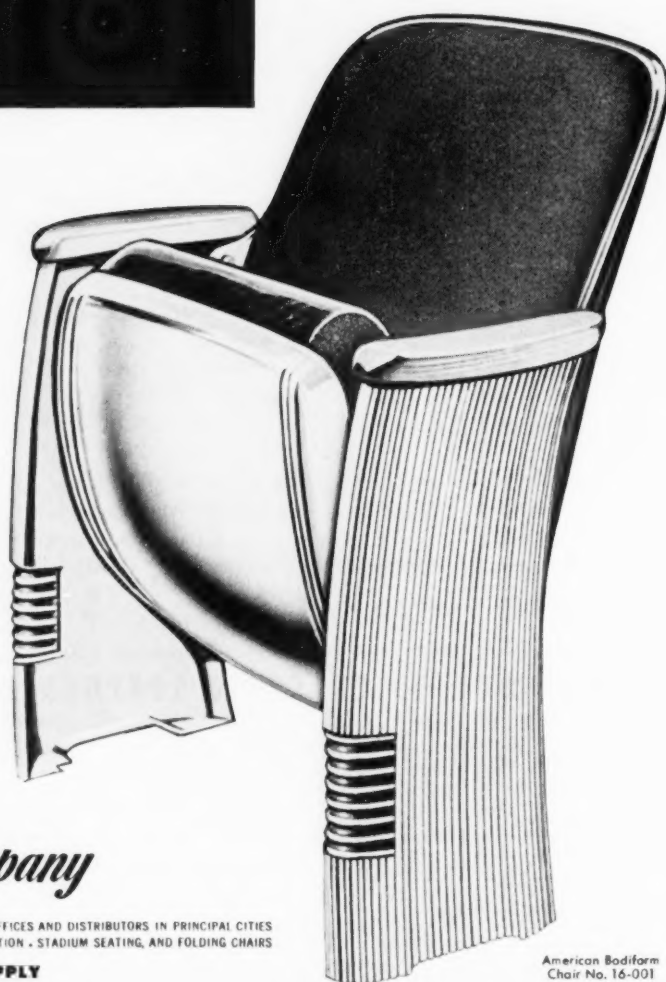
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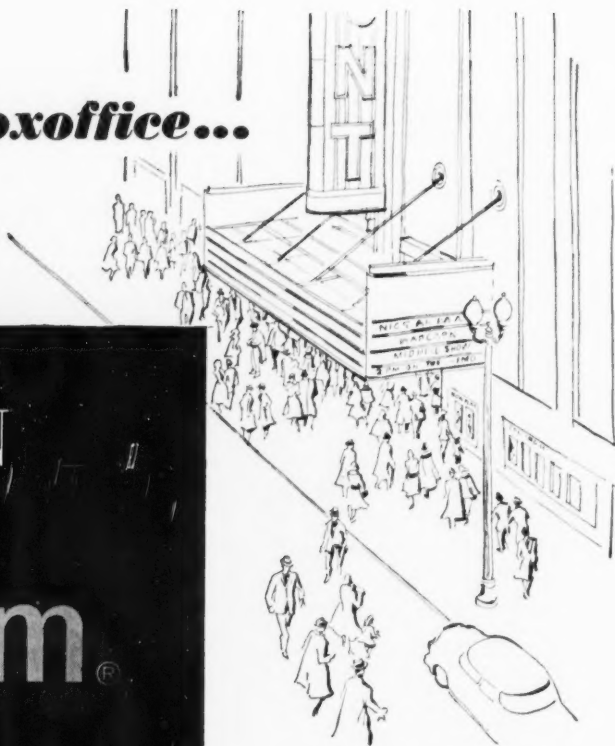
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Motion Picture Herald, March 21, 1953

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Architecture & Interior Decoration

Economical Modernization of the Auditorium, Stressing the Picture

A LARGE portion of our existing exhibition establishment represents practices in design that are now pretty generally rejected. Because screens are brighter, light levels of the auditorium can be higher; former practice made auditoriums appear relatively dingy despite their ornateness.

Painting auditorium walls with light colors having a flat, diffusive finish is the first important step towards eliminating dinginess of appearance. Light colored walls pick up a sufficient amount of reflected screen light to add the cheerfulness that now seems so often missing. Present day screen illumination eliminates dark walls as a projection factor.

A warm gray tone in a fairly light shade, and as *diffusive as possible in finish*, is recommended as suitably neutral during projection for parts of the walls toward the rear—say, from a point 20 feet or so from the screen.

Gray is best everywhere for the creation of a neutral environment for the picture; however, there are certain tones of some colors—particularly in the red and green families—which, while supplying a bit of colorfulness during intermission, “wash out” to a grayish tone under the influence of reflected screen light.

A light shade need not be used on walls below 4 feet from the floor, nor for areas—such as the rear wall and small portions of the side walls immediately adjoining the rear wall—that cannot come into the range of vision during normal attention upon the picture. These non-critical areas can be treated as the architectural or decorative style of the auditorium may suggest.

ACOUSTIC MATERIALS

When the auditorium surfaces consist of acoustical tiles or plaster, it is important to use a type of paint which will not clog the pores of the surface, or create a dense crust. If an oil base paint is used, it is advisable to thin it liberally with turpen-

tine, and in applying the paint to keep the brush as “dry” as possible. Some types of water color paint are thin enough not to impair acoustical properties. Another technique is to use a sponge, with as little paint on it as possible, and effecting a mottled pattern.

VISUAL INVASIONS

Elements of the auditorium which interfere with the ability to *concentrate* on the screen performance are distractions to be got rid of. They are such as painted decorations, drapes and lighting fixtures which reveal themselves by contrast in color and intensity against the background of the walls; also, exposed light sources should be eliminated.

Painted decorations should be completely *painted over to blend with the main wall color*. Where it is absolutely necessary to retain draperies, they should be of a color least in contrast to the background.

Another form of distraction consists in deep niches, panels and bold ornamental projections. It is advisable to fill such recesses and make them flush with the main wall surface, and to reduce bold projections to a flush effect. Where projections are part of the structural supports, the shadows thereby created can be eliminated by splay treatments (see 1952 BETTER THEATRES GUIDE, page 12).

Where the auditorium walls are broken up, in pattern, by columns, pilasters, panels, bands, etc., the new painting work should cover all of these parts *without* accentuating any of the detail in contrasting shades of color. The accenting of details, or repeated forms, tends to create a yardstick of distance measurement, thereby making the picture seem further away from the viewer. When all of the side walls seen in conjunction with the picture are neutralized into one overall tone, the viewer experiences a sense of “picture intimacy,” or *presence*.

By eliminating dark surrounds from the

picture, and by repainting the wall surfaces as herein recommended, a sufficient amount of ambient light is supplied to the auditorium during the picture projection period. However, during the darker sequences, additional secondary lighting is required. For this purpose, concealed light sources are recommended.

These light sources should be located so as to cast light only on the floor and seats, avoiding any spill of their light on critical areas of walls. They can also be used effectively for aisle lighting.

It is advisable to try the lowest wattage possible for the lamps because of the long operating period required, and the warmer tint which is characteristic of low wattage white lamps. The use of tinted or otherwise colored lamps is not advisable because of the additional current required due to the relative inefficiency of such lamps.

CEILING LIGHT FIXTURES

The ceiling is the best location for these units, especially where there is an attic catwalk which permits access from above for relamping. These fixtures are usually recessed into the ceiling, the bottom of the fixture flush with the ceiling. It is important to have top access built into them.

Where attic access does not exist, it may be possible to suspend these fixtures on stems for relamping from below, provided that the fixtures do not obstruct the projection beam or invade vision of the picture. The length of the stems of these fixtures will thus vary with the distance from floor to ceiling, and spacing of the fixtures is determined by their light spreading characteristics.

The diameter of the opening at the bottom of these fixtures should be no larger than required for relamping. The lamp should set far enough into the fixture so that the light source is not visible from any normal screen viewing angle.

Internal surfaces of the fixture which reveal reflections of the light source pro-

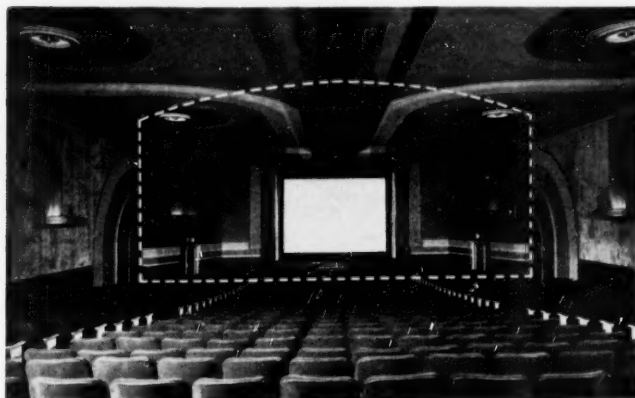
duce an objectionable glare; this is usually remedied by the use of two or more horizontal projecting rings attached to the internal wall of the fixture, near the bottom. Vertical louvres for this purpose are not effective since their surfaces are high-

lighted by the light source. Where bottom access fixtures are used, the clear opening between horizontal louvres should permit the insertion of a relamping pole.

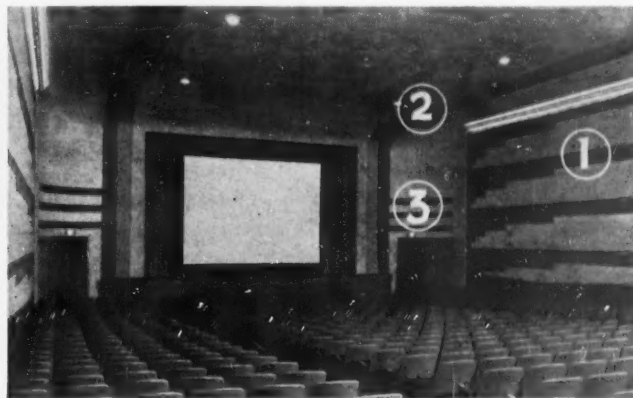
Existing lighting fixtures of the exposed lamp type on the main ceiling or balcony

soffits should be removed, or at least discontinued except for *intermission* lighting.

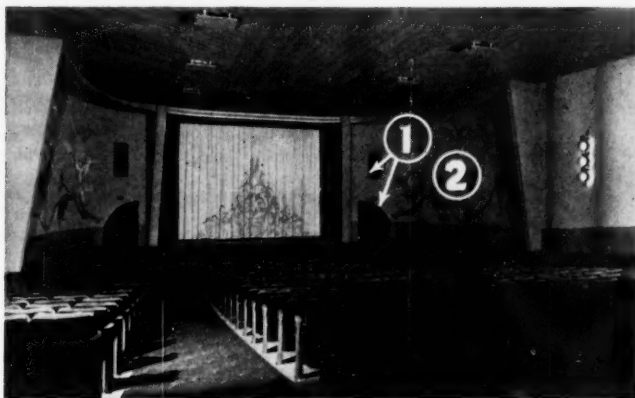
All cove lighting in the auditorium ceiling or balcony soffits, or on auditorium walls, should not be used during the projection period. These light sources are very



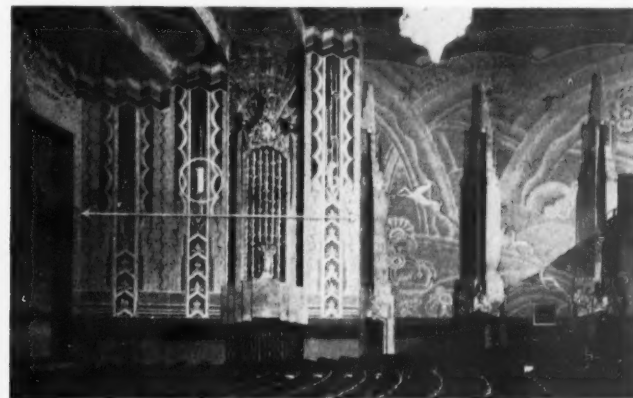
Wall elements like those inside dash lines on the photo above should be painted in one solid light gray color, avoiding accentuation in contrasting colors. Area immediately beyond should also be reduced to one color, but this could have a faint greenish or reddish cast to provide for color interest.



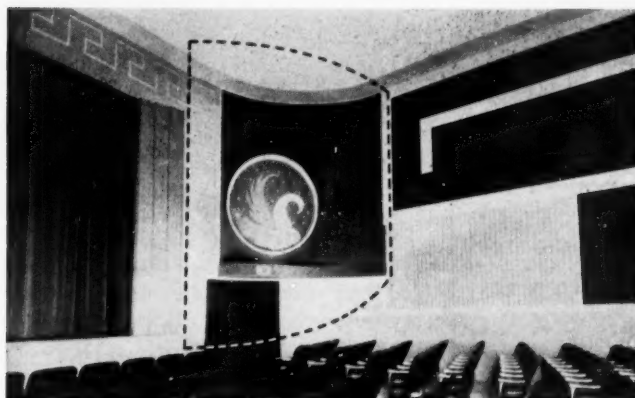
The lines marked 1 and 2 in this example should be painted to match the background. These long horizontal lines destroy "picture intimacy." The lines marked 3 should also be painted to match the background because they do not allow for full and easy concentration on the projected picture.



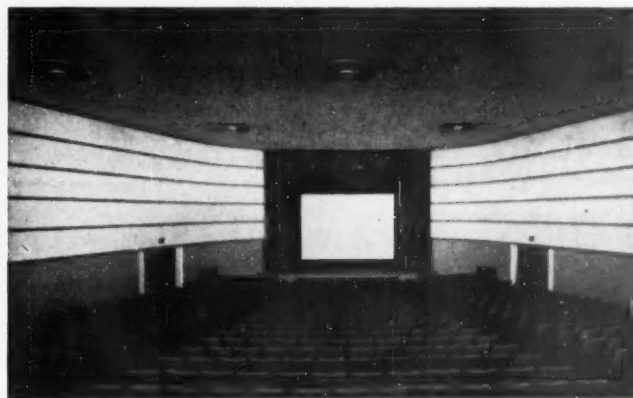
An auditorium comparable in design to the example above could be made even more favorable for motion picture exhibition by eliminating the contrasting outlines of the areas marked 1, and by painting a solid light gray over the entire ornamental panel marked 2 removing this distracting influence.



The wall and ceiling within the distance marked 1 in the photograph above should be painted in one solid neutral color, in order to completely conceal all painted decorations. The remaining areas can have slightly decorative contrasts, somewhat subdued to the conditions which are pictured herewith.



The area within the outline which has been superimposed on the photograph above should be entirely of one solid gray color. The remaining side wall decorations in this type of theatre should have the contrasting values considerably minimized in order to make for the best possible viewing conditions.



Theatre schemes such as those exemplified in the photograph above can become most suitable auditoriums for the viewing of motion pictures if the horizontal contrasting wainscot and upper stripes are kept in a solid neutral tone. This is the only important change necessary here for improved viewing.



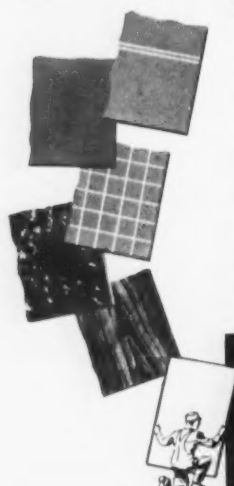
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costly when kept in operation for long periods of time, and they reduce ability to concentrate on the screen performance. Although cove lighting is very effective for intermission lighting, a separate set of downlights of the concealed type is more economical in operation and maintenance.

During intermission, it is also desirable to use *accent* lighting, such as flood and spot lighting of stage and screen curtains, or other draped areas. It is also possible to project lighting effects by means of a stereopticon, using colored slides. Projected lighting effects supply both illumination and effects desirable for intermissions, especially when they can be accompanied by music, such as non-sync.

Accent lighting can be economically achieved by the use of lamps having the reflecting silvered surfaces as part of the lamp. These lamps do not require any special fixture housings; they can be readily concealed behind breaks in wall or ceiling surfaces. They are usually mounted on electric conduit strips, spaced as required. Colored light is easily obtained by the use of glass filter holders which snap directly on to the face of the lamp. A swivel socket fixture makes it possible to adjust the direction of the light beam.

LIGHT LEAKAGE

Some other disturbing factors in auditorium lighting are "light leakages" on the projection screen, and aisle lighting fixtures which show the light source or reflections therefrom.

Light leakage may come from projection portholes, chair aisle lights, and wall and ceiling fixtures, as well as through openings from lobbies or foyers. Infiltration of daylight must be avoided.

A simple test to ascertain the sources of light leakage is to darken the auditorium completely, with the exception of all of the projection period light sources, including aisle lighting. The observer should stand on the stage or platform, with his back to the screen, moving from side to side for the full width of screen and carefully endeavoring to detect other sources of light. All stray light which falls upon the screen must be eliminated by shielding or discontinuing use of the sources.

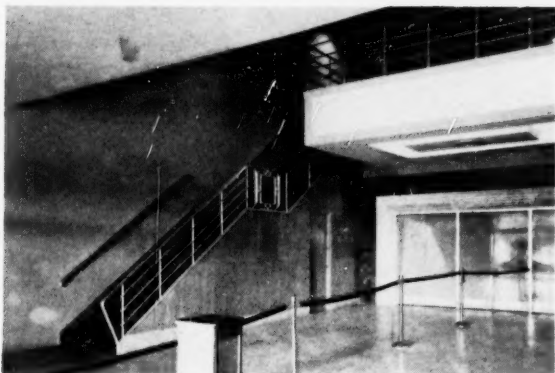
The most penetrating light leakage is that of daylight. The usual remedy for this has been curtains. However, these are not desirable because of the maintenance and need of repeated adjustment. Opaque, permanent shielding partitions are a practical solution for the daylight problem.

Doors which are intended to close off the auditorium from adjoining spaces should not be kept open during the picture projection period; and all doors leading to the exterior should have astragals and weather stripping to seal off daylight.

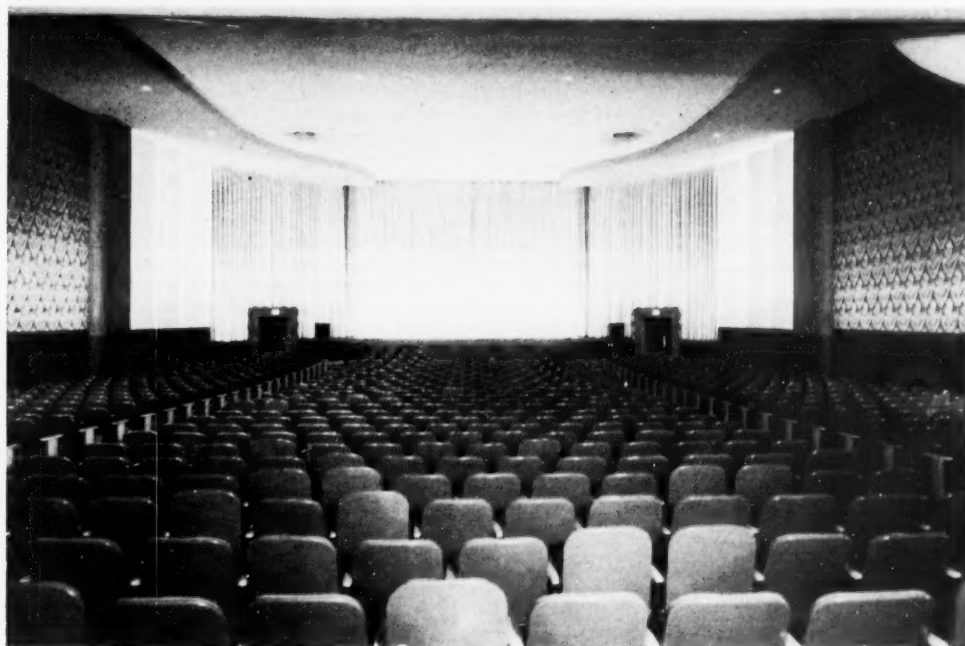
Showplace Among Suburban Shops

The K-B Amusement Company's 1200-seat Langley, part of a shopping development in Langley Park, Md., a suburb of Washington.

Architects for the Theatre:
JOHN J. ZINK and T. V. CRAYCROFT, Baltimore

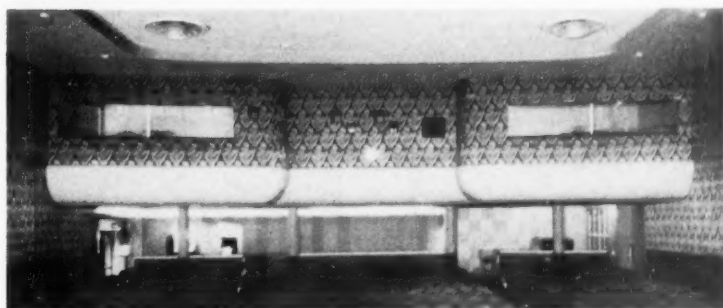


Entrance into the theatre is made through two sets of "Herculite" doors into the lobby (above) which goes directly into the auditorium and up to an open mezzanine lounge by a stairway along the wall (see left). At the right of the lobby refreshment stand is a large storage supply room which has a refrigerator where patrons who have been shopping may check frozen foods and meats should they care to do so.



With the front entrance area between commercial frontage constituting the shopping center, an L-shaped floor plan extends the auditorium behind shops to the right of the vestibule and lobby. Rear walls of the auditorium are finished in figured cotton damask, as are the side walls, over Fiberglas acoustic bats. Both "promenade" and auditorium ceilings are acoustic plaster left natural. The front is treated in cycloramic fashion, beginning with a series of plaster pylons edged with light coves carrying filament lamps on dimmers, then draped continuously with the screen curtain in damask. Seating, consisting in Kroehler push-back chairs, is in a three-bank, four-aisle plan on a dual-incline floor with rows spaced 36 inches back-to-back. The distance from screen to first row is 29 feet, 120 feet to the last, with a picture 24½ feet wide, giving a maximal viewing factor of 5W. The screen is illuminated by Peerless "Magnarc" lamps with 8mm positive trim operated at 70 amperes. Lenses are Kollmorgen f/1.9.

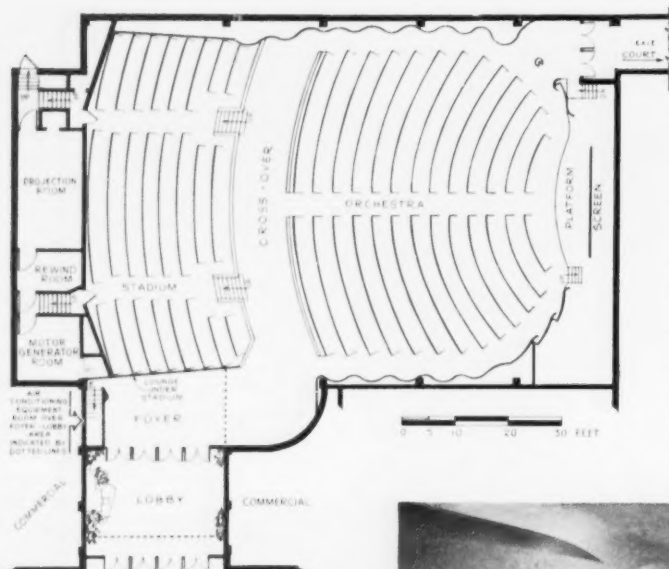
On either side of the projection room at mezzanine level (see right) are a cry room and a private party room. Stairs to these rooms in the lobby not only provide access from the street but reduce auditorium traffic by allowing patrons using the restrooms on the mezzanine to leave through the lobby. The stairway to this upper level from the auditorium is at the far end of the foyer-like area entered directly from the lobby. This area is marked by an arch which narrows into a broad cross-aisle, or standee. In the downlighted alcove, which is faced with gold-tinted Flexglass, are drink and candy coin machines. Illumination of the "promenade" is by a cornice cove across the rear, and a flush-set covered ceiling box fixture. The ceiling of this area slopes upward from a plaster rear wall, curving into the rear wall of the auditorium. (See auditorium description at right above.)



550-Seat Stadium Scheme

The 550-seat Beekman Theatre in New York, is located on Manhattan's cosmopolitan east side, across Second Avenue from a 20-story apartment building. The theatre is a unit of a building housing also commercial services. It is operated by the Rugoff & Becker circuit.

Architect for Lessees:
JOHN J. McNAMARA, New York



FRONT AND LOBBY: Fashioned mainly of stainless steel and glass, the front of the Beekman has an upper facade, above a stainless steel marquee mounting low name signs at each end, consisting almost entirely in a window made up of vertical plate glass panes in stainless steel fenestration, with the glass tilted to eliminate reflection. Entrance into the lobby (above) is through Herculite all-glass doors set back in a marble frame. Here a strip of terrazzo extends outside the doors and continues inside across the lobby to a depth of several feet. To this point, which is practically in line with the front of the ticket counter, the carpeting used throughout the theatre (except in the cosmetic room) begins. This is an emerald green sculptured Wilton. Lobby walls are oak veneer. The ceiling is hard plaster, sand-finished. At the left of the lobby is a ticket counter, which is used instead of the conventional box-office. It is constructed with a marble base, facing of Macassar ebony wood, and a top of Formica zebra wood. An admission price sign is set in a chrome holder. Illumination of the lobby is by a cove with cold cathode and by hi-hat and egg crate fixtures in the ceiling around it. Additionally over the cashier's station is a light recess. Doors into the foyer are stainless steel with a checkered pattern lightly rubbed in to overcome the effect of streaking to which stainless steel is subject. Above the outer doors in the lobby are supplementary heat outlets.

LOUNGE: The lounge is directly ahead as one enters the foyer, occupying space beneath the stadium seating of the auditorium. A short stairway leads down into this area, which has a color scheme of green and yellow. Side walls to the left are light oak flexwood, while those on the right are light oak veneer. Ceiling is a mix-tinted hard plaster, sand finished. Lighting is by covered downlights and coves with cold cathode tubing in a rose white color, as used in all cove lighting throughout the theatre. A feature of the lounge is a small service counter to the right in the front, with facilities for making coffee. A view of the auditorium, looking down the center aisle to the screen, is provided through a picture window in the front wall of the stadium. The window is draped with Fiberglas curtains on each side.





AUDITORIUM: Entrance into the auditorium is through an archway of the foyer sufficiently to the right of the lobby doors to screen out daylight. Side walls converge in a series of "scallop" forms which ultimately shorten to open into a draped front wall. All walls are acoustic plaster mix-tinted a gray-green. The ceiling, also acoustic plaster, is natural. Illumination is by downlights and by built-out coves at the ceiling cornices, carrying cold cathode operated on a dimmer and used only during intermissions. Draping, including screen traveler, is gold twill Fiberglas. Seating is almost equally divided between a main level and a stadium, totalling 550, with all chairs Heywood-Wakefield "Airflo" models with spring backs and upholstered throughout, including rear of backs, in dark red mohair. Chairs are spaced 44 inches back-to-back in both levels. The main floor seating, arranged in a two-bank, three aisle plan (stadium has three banks), is installed in platformed floor area, with slight ramping from the aisle slope, as far as the seventh row from the front, where the floor levels off. The Beekman presents a picture 18½ feet wide. The distance from screen to first row is approximately 17 feet, and about 94 feet to the last row of the stadium, for a maximal viewing factor of approximately 5W. Projection lighting is by Peerless "Magnarc" lamps with 8mm positive trim operated at 65 amperes and supplied by a Hertner motor-generator. Projectors are Simplex equipped with Bausch & Lomb f/2.0 lenses. The sound system used is RCA, and the theatre's screen is a Raytone "Pantex."



Air-Conditioning & Ventilation

SCALING COOLING TO BASIC NEED

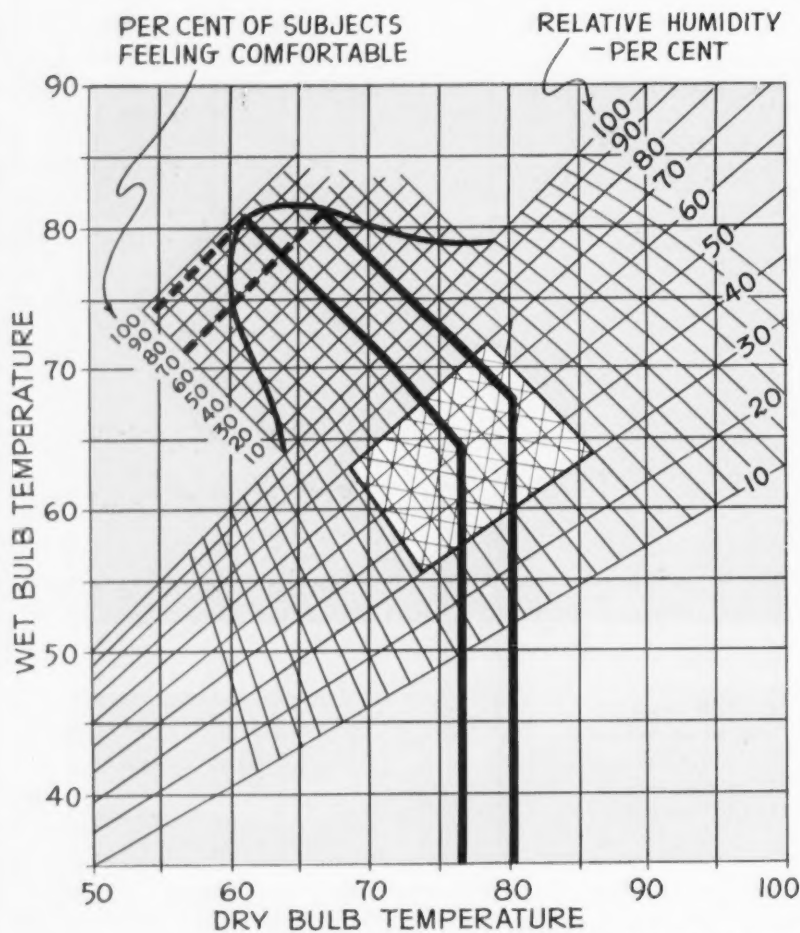


FIGURE 1.—Simplified comfort chart indicating percentage of total occupants who would be comfortable under different combinations of temperatures and relative humidity. Choosing a dry bulb temperature of 77° on the horizontal scale of this chart, follow this line to 50% constant relative humidity line, and from this intersection follow the steep sloping lines to the percentage curve. For these conditions the greatest number of people will be comfortable. However, it will be impossible to make 100% of the people present agree that they are completely comfortable. Now take a temperature of 80°, follow this to the 50% relative humidity line, then go up the slope to the percentage curve. This will indicate that for these conditions only 70% of the occupants would be made comfortable. The white rectangle in the main body of the chart indicates the general limits of temperature and relative humidity within which 50%, or more, of the people present in a room will be comfortable. NOTE: These figures were developed primarily in application to homes, offices and other locations where the occupants remain in the space for periods exceeding two hours and therefore become fully adapted to the inside air conditions. Experience indicates that for shorter occupancy, the internal temperatures should be kept closer to the outside air conditions. This smaller difference also helps to minimize the shock effect produced upon the body by sudden entrance from, or exit to, outdoors.

IN THE air-conditioning (*comfort-cooling*) of theatres, the principal concern is the *comfort of people* (not maintenance of exact thermal conditions). Comfort-cooling means control of *temperature, humidity, air motion and air purity*.

Heat is utilized by body processes at different rates. The average person seated at rest will dissipate approximately 350 units of heat energy (Btu's) per hour.

The body transmits its internal heat in two ways; as *dry sensible heat* radiated from the skin to the surrounding air; and as moist, or *latent*, heat evaporated from the skin, or exhausted from the lungs as water vapor, and absorbed by the air.

Since human skin radiates most of the internal heat, the skin temperature will vary with the *temperature, humidity, and velocity* of the surrounding air. Therefore, as the temperature of the surrounding air rises, the *difference* in temperature between the skin and this air *decreases* and it becomes more difficult for the skin to transmit sensible heat, thus causing a rise in skin temperature and a feeling of *discomfort*.

Then as air temperature increases the *sensible* (dry) heat given off by the skin decreases, and the latent (wet) heat must therefore increase.

Thus at 70°, a total of 260 units of *sensible* heat, and 90 units of *latent* heat per hour, are given off by *each* patron.

At 80°, the sensible heat is reduced to 195 units, while the latent heat is increased to 155 units per hour. If the temperature should reach 100° all the body heat must be given off as latent heat—350 units, or practically all perspiration.

COMFORT REQUIREMENTS

Health, age, activity, clothing, sex, food and acclimatization all play their part in determining the elusive "best comfort conditions" for any *particular* person. Hard and fast rules that apply to all people cannot be given. The best that can be done is to approximate *average* conditions of comfort (see *Figure 1*).

It has been found that with outside conditions of 95° dry bulb, and 75° wet bulb,

an auditorium temperature of 80° and 50% relative humidity is quite acceptable. Table 1 shows the range of conditions which may be found in such a case.

As outdoor temperature rises, indoor temperature should be permitted to rise also, with a corresponding correction in relative humidity (see Table 2).

EXAMPLE: 1000-SEAT THEATRE

A 1000-seat theatre can generally be contained in a building of a cubage produced by such dimensions as 75 feet wide by 100 feet long by 35 to 40 feet high, inclusive

60 tons, and the fans should deliver 15,000 cfm. per minute.

MOST PRACTICAL NEEDS

In the light of practical economics, most theatres can get along with less cooling capacity than the theoretical heat load specifies. Cooling systems have been commonly designed to meet outside conditions that exist for the *ten worst days* of the season.

Further, it is practicable to consider the total *people-load* as less than capacity by as much as 20% without incurring any

OUTDOOR CONDITIONS		TRANSIENT OCCUPANCY		
		THEATRE		
Dry Bulb	Wet Bulb	Dry Bulb	Wet Bulb	Relative Humidity
95	75	82	65	40%
		81	66	45%
		80	67	50%
		79	69	60%

TABLE 1—Dry and wet bulb reading for permissible comfort conditions under circumstances of transient occupancy (see Figure 1).

of the hanging ceiling. In summer such a theatre is overheated in three different ways:

First, *audience heat* (350 units per person per hour).

Second, heat introduced by *outside air*. It is customary to introduce at least 5 cubic feet of air per minute for each person into the auditorium. (It has also been found that the *total amount* of air circulated by the fans should be 15 cubic feet per minute for each seat).

Third, *heat which is absorbed by the building*.

Calculations indicate that such a typical 1000-seat theatre, with a full audience, would normally have a total load of 700,000 heat units, derived as follows: 60% from people, 24% from outside air, and 16% from the building.

The capacity of the refrigerating equipment to handle this peak load should be

drastic loss of comfort conditions for 95% of the summer season.

Following this reasoning, let us see what happens to the typical theatre with 1000 seats.

Using 800 persons as the peak load, the *people-load* can be decreased to 80% of the original. Using an evening temperature design condition of 85°, both the outside air and building loads can be reduced to at least 60% of what had been their original amounts.

For these new conditions the total loads may be figured at approximately 480,000 units, which is equivalent to a refrigeration capacity of only 40 tons.

The smaller equipment will not maintain perfect conditions under *peak* loads for the *worst* day of the season; but it would also be foolhardy to pyramid these same loads since their concurrence is extremely unlikely.

As refrigerating systems become smaller and more simplified, it often becomes possible to use equipment which has been prefabricated in sectionalized units directly by the manufacturer. This equipment may be matched and assembled in the field very conveniently, producing great savings in costly field construction, metal ductwork, water and refrigeration piping.

Unit conditioners come in many sizes and may be combined to produce any desired tonnage capacity. When properly selected and installed, they will operate at high efficiency and give lengthy and trouble-free service.

OUTSIDE CONDITIONS		INSIDE CONDITIONS
Temp.	Temp.	Rel. Humidity
95	80	50-55%
90	78	45-55%
85	76	45-55%
80	75	50-60%
75	73	50-60%
70	72	50-60%

TABLE 2—Relative temperatures that should be maintained in conditioned space.

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Auditorium Seating

IN RESEATING the auditorium, a study of the existing plan should be made for the minimization of visual obstructions. If seating has not been staggered, it should be. The aisle arrangement should be reviewed to determine its efficiency. Building code requirements usually dictate aisle arrangement. The best aisle arrangement is the one which places the most seats within the narrowest possible viewing angle.

Most theatres do not have adequate floor slopes for unobstructed vision of the picture. It is easy to check existing sightline clearances. Figure 2 shows a device which places a duplicate of the average head in the proper position relative to the floor for testing for these clearances. The head shape is cut out of cardboard, and the stand is constructed from light wood slats. The diagram indicates the method of insertion between the chair cushion and the

chair back. In testing, the viewer sits immediately behind this inserted test figure.

A simple method for checking proper positioning of seats in a staggered arrangement is shown in Figure 1. To a nail or hook placed (as in a board) immediately in front of the picture screen at the exact center of the picture width, a white rope or string should be fastened.

To test the sightline clearance from any given seat, the line should extend from the nail to the arm block of the chair imme-

diately in front of the seat to be tested, and pulled taut across the seat being tested. If the stagger is proper, this line should pass through the center of the seat cushion, or not more than 2 inches in either direction from this center point.

Every other row of the existing seating can be left in its existing position without disturbing the chair standards. The remaining alternate rows are then tested in the manner described above for determining the necessity for change in chair position to effect a proper stagger arrangement.

If more than 10% of the chairs in any row, within a seating bank, do not meet the above test, then all of the chairs in that row should be removed in order to relocate them in new positions that meet the test.

It will be found that, in order to accomplish proper staggering, the devices of indenting various aisles, and of introducing gaps between chairs will be necessary in some instances. The aisle indentation will vary from about 1 inch to as much as one-half of a chair width. It is desirable to keep these aisle indentations to a minimum.

The gap widths between chairs should be less than $2\frac{3}{4}$ inches or more than $4\frac{1}{2}$ inches in the clear. An additional middle standard seat support is used at the gaps. Gaps should not be located so as to leave a single chair isolated.

The small loss of seating capacity which results from such staggering will most likely provide the required additional seat standards.

In repositioning existing chairs, or in a new seating installation, row spacing (back-to-back measurement) should not be less than 34 inches provided that a stagger arrangement is used in the middle bank or sections, since staggering provides additional knee room.

If sightline clearances are such that staggering is not necessary, the row spacing should be increased to a minimum of 36 inches. Moreover, any chair back thickness greater than 1 inch requires an increase in row spacing to compensate for the additional thickness.

DOUBLE ARMBLOCKS

Still greater comfort to the patron is afforded by introduction of an over-all double armlock throughout the seating.

In any event, where it is necessary to maintain minimum existing row spacing,

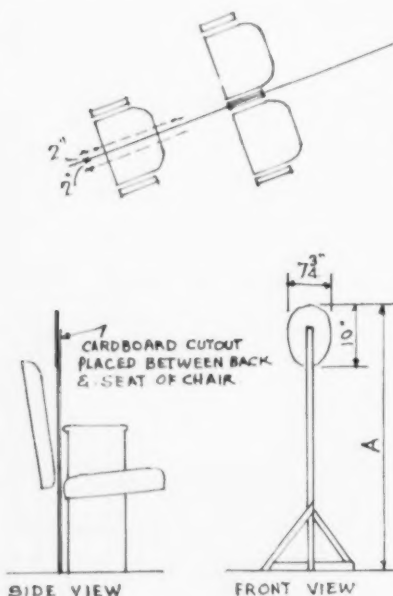


FIGURE 2 shows device used for testing sightline clearances from any given seat to the picture screen. Dimension "A" is 4 feet, 1 inch, representing the distance from floor to top of patron's head when in seated position. The wood slat stand can be inserted between back of the seat cushion and front of the seat back.

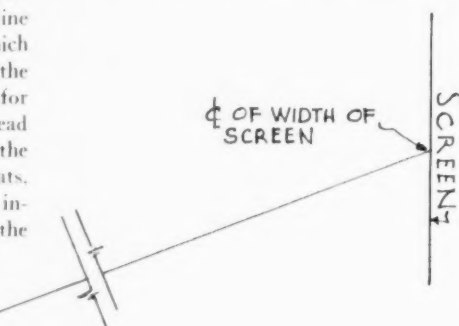


FIGURE 1: Method of checking stagger clearances of existing seating installations. See text.

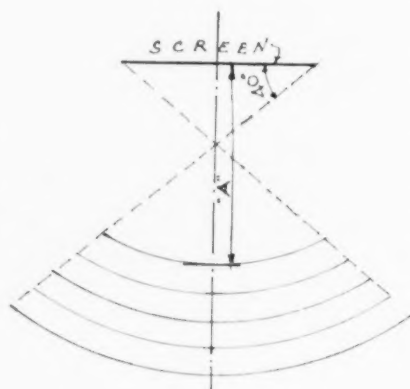


FIGURE 3 illustrates the limitations of the seating pattern in the area nearest to the screen. Dimension "A" should equal the width of the projected picture. No seats should be placed outside of the 40° angles shown on this diagram.

such as 32 inches, due to existing aisle lights, air-conditioning floor outlets and concrete platform steppings, it becomes a distinct advantage to employ double standards and armblocks, with stagger.

AIR OUTLETS

In resetting chairs in new positions, and where row spacing is increased, some air-conditioning floor outlets may occur where floor standards are to be attached. In these instances, the floor outlets, which are generally of a "mushroom" type projecting above the floor, must be removed and replaced with a flat metal grille, with the openings not larger than 5/8-inch to avoid the wedging of shoe heels.

The edges of the metal grilles must be beveled to avoid toe stubbing, and they should be firmly secured to the floor and of sufficient strength to permit bolting of chair standards. Where the grilles occur in walking areas, their surface can be roughened to improve traction.

The shape of the seating pattern nearest to the screen should be in accordance with Figure 3 to avoid serious neck-strain in viewing the upper half of the picture and distortion of the picture image from side seating.

The American Standards Association recommends that "the distance between the screen and the front row of seats should be not less than 0.87 feet for each foot of screen width"—writer believes that this distance should be at least the width of the projected picture.

It is recommended that all chair backs in the front half of the main floor should have an angle of at least 20° from the vertical to reduce neck-strain; and, whenever possible, have spring-back construction to cushion the additional pressure on the patron's back which occurs with upward viewing angles.

Where reseating creates difficulties in establishing new electric outlets for chair aisle lights, it would prove more economical to install concealed ceiling downlights over the aisles than to chase into concrete floors for new wiring.

AIDING AISLE TRAFFIC

Aisle standards finished in non-glossy white reflect a maximum of light from overhead sources and from the screen.

Where aisle lights are used, they should not be of a type which permits stray light to fall upon the screen.

Arm blocks of very light bleached wood also aid visibility of aisles.

Whenever possible, the chairs closest to the side walls should be kept at least 3 inches from the wall to allow for elbow room.—Ben Schlanger.

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Film Damage and Its Prevention

1. Picture Streaks

SOME AMOUNT of damage may be suffered by film in exchanges and in transit from theatre to theatre; however, most film damage occurs in the projection room, and specifically in the projectors.

MAGAZINE VALVE ROLLERS

Probably more prints are discarded because of severe and multiple scratching than for any other reason, and the most prolific sources of this type of damage are the magazine valve rollers.

Because these rollers are grouped so closely together, with some of them arranged to float on the film, they form a close nest or trap which can gather dirt, oily matter and film chips. This debris may slow down the rollers or may even stop them completely.

When this happens, the raised-end tracks of the rollers will wear down sufficiently to permit the central part of the roller to have direct contact with the film. This particular type of trouble is more prevalent on the upper magazine valves because the concave section of the magazine funnels everything into the valve assembly.

Even when the rollers are kept clean and free, some cases have been found where the white-metal casing, which normally comprises the bearing surface for the roller bearing pins, has worn sufficiently to allow the body of the rollers to rub against the trap frame. This extra friction will also stop the rollers with the same disastrous result to the film.

Concerning this kind of film scratching the Eastman Kodak Company reports that the relatively soft emulsion of new prints is very susceptible to abrasion, and the scraping is frequently so deep that the emulsion is completely plowed off. Since these rollers are on both sides of the film, non-emulsion side scratches show up as dark lines on the screen, especially when they become filled with oil and dirt.

COLORED DUPLITIZED FILM

With certain types of colored duplitized film, there are two emulsion sides which are affected. Damage here will result in red and green "rain" or deeper lines. Clogged and

damaged rollers may produce long straight scratches, or a repeating pattern of short scratches as the rollers jerk in their motion, or as the film weaves from side to side.

The only remedy for this kind of trouble is repeated inspection of the magazine trap rollers and bearings, both front and back. The screw pins on the rollers are generally hardened and ground and a few drops of oil will prevent rusting and eliminate friction. The film, while in motion, pulls these rollers around, and excessive friction causes the roller faces to slip on the film.

Some rollers come through with a black oxidized finish which helps in detecting defective roller operation, because when film rubs on the black central section of the roller, it polishes, or removes, the coating, thus giving a warning of impending trouble.

There are certain types of roller housings which have been carefully machined and which have special bearings installed for the roller pins. These will give longer operating life with less possibility of scratching trouble.

UPPER MAGAZINES

Upper magazines should be free from all encumbrances and should be easily removable so that the upper rollers may be better inspected and thoroughly cleaned.

Some magazines have incorporated in the frame of the rear window a low-voltage lamp which serves to give warning about the level of the film on the reel hub.

Some magazines are equipped with very effective constant-torque retard clutches which provide a continual, smooth retarding pull on the reel spindle. Such a device is invaluable in preventing film overfeed through sudden retard and snapping.

If an audible warning must be used, it is definitely safer to use one whose whole mechanism is completely outside the magazine and has no contact with the film.

GUIDE ROLLERS

After the film leaves the upper magazine, it is fed by the upper sprocket into the film gate or trap. The film here must be guided perfectly, held in rock-steady position during projection, and then moved into a new

position. The guide rollers above the gate serve as a guide for the film as it travels down past the aperture to the intermittent sprocket. On older projectors these rollers are the only form of edge guide for the film, but on newer models the long film tracks on the side of the aperture have been recessed to provide full-length film guiding and edge support.

It is imperative that the rollers and runners be aligned properly with the intermittent sprocket, otherwise the teeth will engage the film perforations off-center, and the corners of the perforations will be broken. The guide rollers must run freely or they may develop grooves and ridges which may further damage the film edges and even open up poorly made splices.

The guide roller assembly should be inspected frequently and if necessary removed for cleaning or replacement. The guide roller tension springs should be checked to see that they still have proper tension.

GATE TENSION

The principal reasons for using pressure pads and shoes on a film trap is to prevent picture jump and to maintain a basic focusing plane for the film. Insufficient pressure by the pads will permit the film to stop at different positions causing picture jump. Excessive pressure will result in abnormal film wear and damage.

There seems to be no generally accepted standard setting of pad pressure for any given projector which is satisfactory to all projectionists. The Eastman research labs have made tests on various projectors over a long period of time and have concluded that a total equal pad pressure which demands a film pull of over 16 ounces is unnecessary and only increases wear on the film; while settings producing pulls as low as 6 ounces appear in some cases to be sufficient to give steady screen pictures.

2. Sprocket Damage

Serious film mutilation can be produced also by badly worn or damaged projector and soundhead sprockets. This type of

damage runs a close second to film scratching. Although it may not be visible to the audience, sprocket hole damage may produce even worse effects—film jamming and film fire.

During projection, sprockets may produce damage to film due to one of the following causes:

(1) *Badly worn sprocket teeth*; (2) *damaged sprocket teeth*; (3) *poor alignment between sprockets, film, shoes and guide rollers*; (4) *excessive tension by upper magazine brake, on film gate shoes, and from take-up clutch*; (5) *shrunk or deformed film*.

The teeth in a projector sprocket are supposed to register exactly in the film sprocket holes so that the film is engaged and pushed at the *base* of the tooth, not by the narrower tip or intermediate section of the sprocket tooth. In a properly fitting sprocket, the *tips of the entering and leaving teeth should never touch the film*, otherwise chattering and jumping will surely occur.

INTERMITTENT SPROCKETS

Intermittent sprockets may suffer damage in excess of normal wear produced by film. The most common is caused by the *apron shoes rubbing against the sides of the teeth*, or by the *shoe frame rubbing against the tips of the teeth*. This metal-to-metal contact will quickly ruin a sprocket and can be produced only by mis-shaping the gate apron, or by inserting the gate in the wrong position.

Either of these errors is inexcusable and should be remedied immediately. The metallic clicking produced certainly cannot go undiscovered for very long. Should this happen, the intermittent should be removed and the sprocket teeth should be examined one by one, with a magnifying glass under a strong light, to make certain that no gouges or sharp edges have been developed, because these would cut into the film like so many knives.

If the film guides and rollers in the film gate are out of line with the sprocket teeth, the sides of the sprocket holes will be forced against the tooth bases causing fast wear of the teeth and corner tears in the film itself (see accompanying photographic reproductions of sprocket tooth damage).

OTHER SPROCKETS

The only other sprockets which are loaded to any extent during projector operation are the *upper feed sprocket* and the *sound hold-back sprocket*.

The upper sprocket in the projector has to pull the film from the upper magazine, and here the wear of the sprocket teeth is directly proportional to the restraining force of the upper spindle brake mechanism.

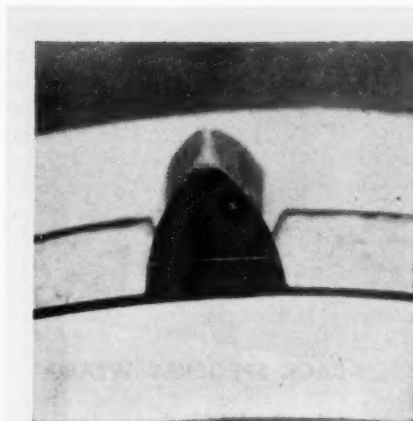


Figure A

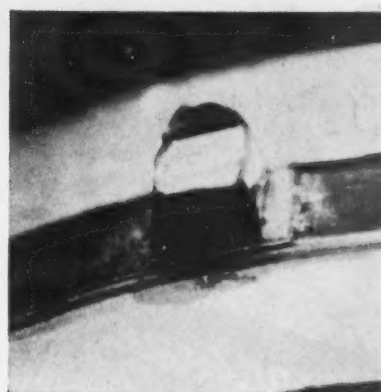


Figure D

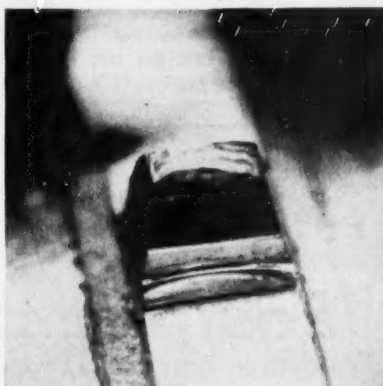


Figure B

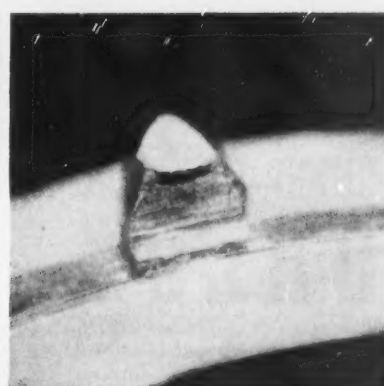


Figure E

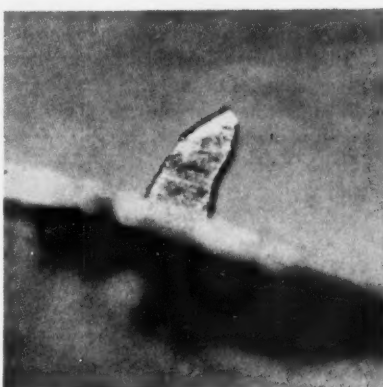


Figure C

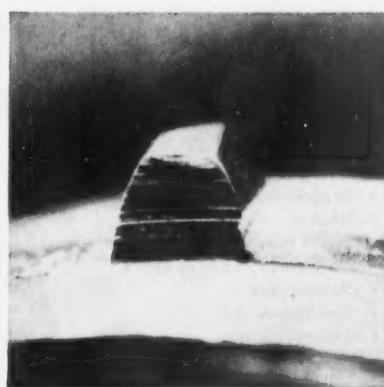


Figure F

FIGURE "A" pictures a brand new tooth with its full curvature. FIGURE "B" shows the face cut at the base of the tooth, indicating the progression of normal wear. FIGURE "C" shows a tooth with excessive wear. Here the concave indentation half way up the tooth means that the film was beginning to strike higher and higher as the tooth was entering the sprocket hole; all due to the fact that the wear at the tooth base had progressed too far. FIGURES "D" and "E" definitely indicate very hard rubbing of apron shoes against the teeth. It seems impossible that the racket produced by this kind of metallic striking should go unnoticed by any one with normal hearing. Much film can be damaged by the sample shown in Figure "D." FIGURE "F" shows the beginning of side film rub, or of side metal scrape. (Photos courtesy of Eastman Kodak Co.)

It goes without saying that this mechanism should be checked and lubricated at intervals to insure a *minimum* of retarding action to permit the smooth feeding of film to the projector. Any *extra braking* action

above this merely serves to increase wear on the upper sprocket and possibly deform the film sprocket holes.

The hold-back sprocket in the sound head, as the name implies, serves to prevent

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any erratic action of the take-up reel from being transmitted to the sound sprocket. The hold-back sprocket therefore has to hold the film against the variable pulling action of the lower magazine take-up mechanism. Here again it is imperative to make certain that this pulling action is never excessive; that it is *just sufficient to wind the film on the lower reel smoothly and without wrinkles*, and that it will never be high enough to cause film stretching and sprocket hole damage.

HOLD-BACK SPROCKET WEAR

Naturally, the hold-back sprocket teeth wear on the opposite side from the other sprockets and they should be examined carefully for sharp edges and points as the wear increases. If sprockets are not driven to breakdown or deformation, it is possible to

reverse them and thus increase their operating life.

In performing this operation, common sense should be used. Some sprockets may have to be changed after twelve months because wear has become so great as to affect, not only the face, but also the sides and tips of the teeth. In this case, this sprocket cannot be reversed and must be replaced.

If this sprocket had been reversed at nine months, it is quite possible that it would give good operation on its new face for nine months more. In the first case, only a year of service was obtained from the sprocket—during the last three months of which film damage may have been produced. In the second case, a year and a half of service could have been obtained from the sprocket with surety that no film damage would have resulted.

Projection and Sound Equipment Maintenance

REPAIRS OR replacement forced by negligence are often much more extensive than those called for in preventive servicing. On the other hand, arbitrary replacement of operating parts and assemblies without due regard to their condition and wear, may prevent breakdowns, but it will certainly increase the normal cost of operation. There must be a *proper mean course* which can be followed to secure the greatest length of service and still insure against all normal possibilities of failure.

This happy combination of long operating life with minimum permissible breakdowns may be achieved only by *constant inspection, careful periodic checking*, and the *observance of simple but logical safety rules*.

In the projection room we are dealing normally with electrically driven or electrically operated mechanical equipment. There are three cardinal principles which must be followed in order to preserve the life of this type of equipment.

1. *Keep all bearing surfaces properly lubricated.*
2. *Prevent damage to the insulating material covering all current carrying conductors.*
3. *Keep all equipment thoroughly clean both externally and internally.*

Present-day projectors have totally enclosed mechanical compartments with

forced-feed oil pumps providing lubricant continuously to all moving parts. In the older open-frame type most bearings have individual oiling grooves with practically no provision for reservoirs. Bearing ends are not provided with oil retainers and the lubricant is quickly lost through the clearances; and this loss progresses rapidly as bearing wear increases.

An attempt can be made to prevent a too rapid loss of oil from these bearings by using shafts with return helical grooves which will tend to pump the oil back from the edges of the bearings towards the center. If hardened shafts are used, and fitting tolerances kept very close, these combinations will give much longer life. However, with these open models there is no substitute for frequent careful oiling of all bearings.

This procedure may produce some excessive amount of oil around the projector, but it is possible to catch the excess oil in drip pans and guards usually provided between the projector and soundheads, or constructed by ingenious projectionists.

Do not lubricate projectors while they are running.

MOTORS AND GENERATORS

Generators may be built up from two machines, a motor and generator, in which case they have four bearings and some coupling device; or they may be combined

Motion Picture Herald, March 21, 1953

in one frame with only two bearings and one common shaft holding both the motor and generator armatures.

The bearings are of two types: *sleeve bearings*, which are more generally used on the built up equipment; and *ball bearings*, which are commonly used on the integral machines.

SLEEVE BEARINGS

Sleeve bearings are lubricated with oil held in a reservoir under the bearing, and fed by means of an oil ring which picks up the oil from the reservoir, delivering it to the top of the shaft and bearing. The oil then works its way through the bearing and back to the reservoir. If the surfaces are not worn, and the oil is of the proper type for the bearing, this operation goes on indefinitely.

If the bearings are improperly fitted or worn, some of the oil will be wasted out at the bearing ends. In order to compensate for this, the tendency is to overfill the reservoir, thus aggravating the condition because the oil will lap over the bottom of the shaft.

GENERATOR ROOM CLEANLINESS

All motors and generators have fans built into their armatures which tend to force and circulate air across the electrical windings for cooling purposes. The air in motion will pick up the oil in minute quantities and deposit it as a film over some of the windings. *If generator rooms are not kept absolutely clean and dust-free, this will result in the formation of a gooey, oily paste over parts of the windings, over the generator commutator, and over the brushes and rigging.* This condition will generally lead to some form of electrical failure.

Small particles produced by the normal abrasion of the brushes against the commutator are generally blown free when all surfaces are dry. But if the slightest film of oil should be permitted to form, enough of this conducting material will remain on the commutator to produce arcing, overheating, and possible electrical failure.

DANGER OF OIL DRIPPINGS

Oil dripping from a bearing will generally find its way to the lowest point in a motor or generator housing, which also contains the bottom sections of the stator or field windings. Lubricating oil has a tendency to soften the insulation and varnish used on these windings, and over a period of time may so damage the dielectric as to cause internal short circuits or grounds. Insulation damaged in this manner cannot be reimpregnated, and the result may be a rewind job.

Where ball bearings are used, it is also imperative that over-packing of grease be

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avoided. Generally, the ball bearings are enclosed in a cavity in the end housing of a motor or generator. This space is usually very small and will contain a limited amount of grease. As the bearings rotate, the grease in contact with the bearings will liquefy and provide lubrication. The amount of liquid grease is never great enough to run out of the housing. So long as the ball race is covered with grease, the bearing will have a sufficient amount of lubrication.

Often where pressure guns are used to fill the cavities with grease, the tendency is to pump them so full that the excess will run out at the bearing seals. This is very poor procedure because during the operating cycles more grease is forced out by expansion due to heating and this may be picked up by the commutator or the winding with ill effects.

GENERATOR INSPECTION

To check the lubricant condition in the ball bearing races of this type of motor-generator set, it is preferable to remove the end caps which close off the bearing cavities. These caps are usually held in place by slotted or cap screws. The bearing is then exposed to view and the old grease can be scraped out. New grease may then be added and packed around the ball race. (The manufacturer generally supplies, or recommends, the kind of bearing grease to be used.)

When the bearing race is carefully covered with new grease without overfilling the whole cavity, the cover may be reinstalled, making sure that gaskets are undamaged. In this way one is certain to have visually examined the bearing, removed any caked grease or foreign particles, and repacked with a safe amount of lubricant.

Where sleeve bearings and oil lubrication are used, similar care should be exercised in oiling. The bearing oil-reservoir is always provided with some device to indicate oil level and a plug for complete draining. There is provided also a removable cover which will permit inspection of the oiling ring or wick. Here again it is undesirable to try to maintain the level of the oil above its proper setting because this over-supply may force the oil past the retainers on the bearings and on to the commutator and windings.

Periodically the oil should be drained from the bearing reservoirs and replaced with fresh oil of the proper consistency. The color of the old oil will indicate whether the bearing is operating without wear. The oil should be practically as clean as when first installed. If it is much darker, then it is pretty certain that bearing material is being scored, or that dust and dirt is being

permitted consistently to enter the bearing housing.

When oil is being changed or added, care should be taken to replace all covers on the housings and on the oil level cups and indicators.

MOTOR MAINTENANCE

Motors will break down electrically only when the insulation of the windings fail and an electrical short circuit occurs between conductors, or an electrical ground develops between the conductors and the metal frame of the motor. Insulation failure may be caused by external damage or by dirt and oil saturation; but most of the time it is caused by *excessive heat developed in the motor windings*.

All motors are designed to operate at definite maximum loads and current ratings. When anything happens to the motor, or to the equipment which it is driving, causing it to draw more than its full rated load current from the mains, the increased heat losses in the windings may raise the temperature of the insulation beyond the safety point.

A motor may draw excessive current for several reasons: (1) *when the external load is increased beyond its ratings*; (2) *when motor bearings run dry or become defective*; (3) *when the rotor rubs against the stator*; (4) *when the starting mechanism on single phase machines fails to operate*; (5) *when a line opens on a multi-phase machine*; and (6) *when the windings develop shorts or grounds*.

Motors, besides having some line disconnects, such as switches, should be provided with separate protective fuses, or should be connected to a circuit which is fused individually.

All motors make two separate current demands from the electric mains—starting and running current. A motor thus requires from three to four times its *rated* full load current in order to start rotating from a stopped position. This very high current only lasts a very short time and quickly levels off to the normal load value. However, if we were to use fuses for the motor lines which were just able to carry the full load current, these fuses would open or blow every time the motor is started.

PROTECTIVE DEVICES

For full motor protection, at least two devices should be used—one *high-rated device* which will carry the current of the motor until it is *started*; and a *low-rated device* which must be substituted for protecting the motor for overloads when it is *running*.

This may be accomplished with standard fuses by using a double-throw switch that

has a high-fused start, and a low-fused run position. This method, however, is quite clumsy in operation and is seldom used.

In its place, especially where 220-volt single- and multi-phase motors are used, it is customary to install a motor controller of the magnetic start type. This controller consists of two parts: (1) a switch or set of contactors which connect or disconnect the motor from the line, and (2) the motor running protective device. This motor starter is known as *magnetic* because the moving parts of the switch are closed by an electromagnetic coil.

These magnetic starters and protective devices are made in various sizes, and each size may be fitted with any number of carefully calibrated triggering heaters so that the current required to open the line contacts can be chosen within an ampere or two. If the proper heater is used, and if the magnetic breaker mechanism is kept in good condition, there should be no reason for any motor protected by this type of device ever to develop a burned out winding.

All motors are marked with the full load current ratings, and the proper safe heater may be chosen by multiplying this value in amperes by 115%.

FRACTIONAL MOTORS

Little thought has been put into supplying similar proper motor-running over-current protective devices for the small, fractional horsepower, single-phase, 115-volt motors used in great numbers in theatres. There is a rather simple solution to this problem which, if used extensively, would tend to reduce the mortality of small motors to practically nothing. New types of plug and cartridge fuses have been developed called "Fusetron" or "Trionet." These consist of two elements: (1) a *fuse link* which operates the same as in any standard types of fuse, opening the circuit almost instantaneously on a short circuit or heavy overload; and (2) a heater element which, under a continued overload that would injure the motor, melts the solder holding one end of the fuse link, thus permitting an enclosed spring to open the circuit by pulling the link from the melted solder.

These fuses look similar to plug or cartridge fuses and come in many ratings matching the normal full load current for the various types of small motors.

To provide running protection for a motor, for ordinary service, a rating should be selected which is equal to, or just higher than, the full load current rating of the motor. In other words, at 115 volts, a 1/16-h.p. motor should be fused at about 3.2 amperes; a 1/4-h.p. motor should be fused at 4.6 amperes; and a

1/2-h.p. motor should be fused at 7.4 amperes.

If the motor is the only unit connected to a single circuit, it is a simple matter to substitute the proper "Fusetron" in the distribution panel. If the motor is mixed with other devices, then the best procedure is to insert a simple 3- or 4-inch box with a lamp receptacle cover adjacent to the motor, and wire the protective device in series with the live line.

SOUNDHEADS

The soundhead not only must be a perfect mechanical driving device; it must also generate electrical signals without adding or subtracting any undesirable external disturbance. The slightest disturbance of the electrical circuits, contacts and wiring from the photocell to the main amplifiers will also be greatly multiplied and will cause extreme noise, distortion and annoyance.

In addition, the optical system which focuses the light slit on the sound track must be kept in perfect adjustment and alignment if the full frequency range of the sound track is to be completely exploited.

CHECKING SOUNDHEAD DRIVE MOTOR

Motors used for driving soundheads are generally of the split-phase type ranging in size from 1/6- to 1/4-horsepower. The motors are mounted on resilient, rubber cushioned bases to eliminate transmission of vibration to the soundheads. These motors should be checked frequently to make certain that—

1. The internal starting switches are not wearing or jammed.
2. That bearings, both oil and grease type, are properly lubricated.
3. That the suspension rubbers are not deformed and rotted due to oil saturation.
4. That the motor has not shifted out of line with the gear box shaft.
5. That it is not being overloaded due to poor soundhead and projector bearings, or extremely tight intermittent movements.

Excessive lubrication is just as harmful as poor lubrication because oil-saturated motor windings are prone to fail very easily. Tight bearings, or tight intermittents, may cause a motor to vary in speed sufficiently to produce "wows."

The motor, which runs at approximately 1750 r.p.m., drives a soundhead through a speed-reducing gear box so that the soundhead sprocket shafts turn at 360 r.p.m. This gear box should be checked frequently to make certain—

1. That the coupling between motor and gear box has not deteriorated and is in proper alignment.
2. That the bearings are running cool and free. If the projector drive is tempo-

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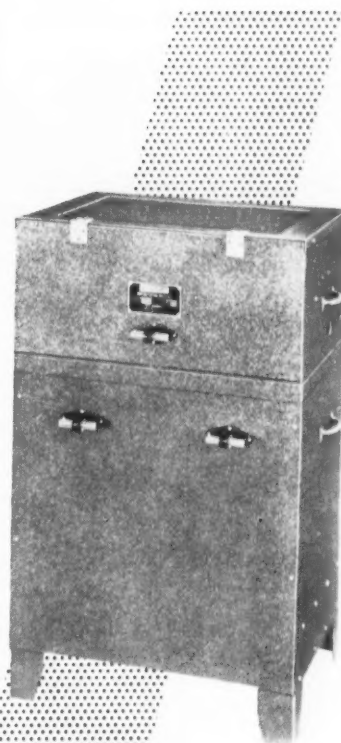
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rarely disconnected, the soundhead should run very freely and come to a slow coasting stop when the motor switch is opened.

3. That the lubricant in the gear box while running is maintained at correct level.

It may be possible to determine excessive wear by checking the amount of back-lash between a sprocket shaft and the main gear box shaft. To do this, hold the motor coupling stationary and observe the amount of motion that can be obtained from the sound sprocket and hold-back sprocket shafts. If this motion is more than half a tooth, open the gear boxes and check for wear.

These boxes are not overloaded and the lubricating oil should remain clean over long periods. If the oil darkens rapidly it is best to investigate possible wear of the gears.

Check for wear and alignment of external take-up drives and projector drive gears.

Check for leaking gaskets and housings.

CHECKING OPERATING SIDE

On the operating side of the soundhead frequent examinations should be made of sprockets, strippers and pad-roller assemblies. This should be done in conjunction with the lower magazine take-up and fire roller units. It is imperative that all these devices should be operating freely and be in perfect alignment in order to prevent serious film damage which might occur when film is forced against the sides of rollers and guides.

Misalignment of the lower magazine may even cause film to run off the hold-back sprocket with consequent film embossing and damage.

Film take-up tension needs frequent inspection to prevent sprocket hole deformation.

The impedance drum and its oil-damped flywheel must be kept thoroughly clean and properly lubricated, and the drum should be kept free from wax, dirt and oil.

The felt or rubber pressure roller which holds the film in contact with the drum must be absolutely clean at all times and should not have any flat spots or ridges on its surface.

This roller should always be lifted from the drum when the machine is not operating. Any flats on the roller surface, any ridges or grooves in the lateral guide flanges, or any grit and dirt in the tiny roller bearings will nullify the flywheel's damping effect and produce noticeable flutter and distortion.

EXCITER LAMPS

Generally this lamp, which dissipates approximately 50 watts, is enclosed in a small compartment and is held in place by a base which must be quickly changed in case of

a burnout. For this reason the bases are generally of the slide type and thus present a possible source of poor contact and trouble.

The exciter lamp bulbs are cemented to their shell bases and these may be loosened. The lamp filaments are prone to sag after some use and may become distorted. The wires and springs connected to the sockets may become overheated and the insulation charred. The leads for supplying current to the lamps can become oil-saturated, and the insulation may deteriorate to a point of failure.

Vibration of the filament caused by loose sockets or bases, or by worn-out filaments, may cause hums and noises in the sound output.

The only cure for these types of disturbances is preventive maintenance and service. The exciter lamp, its contacts and wiring should be examined frequently.

Contacts should be kept bright and clean, and the tension of the contact springs should be checked. The wiring at the terminals should be inspected to determine its condition. All contacts should feel cool to the touch, all insulation should feel dry. (Exciter lamp voltages are low, about 10 volts, and poor contacts will quickly cut the voltage supply to the actual filament.)

PHOTOCELL CIRCUIT

In the photocell circuit we are not dealing with only a few microamperes. For this reason, size of wires and the contact resistances may not seem important; but this is the point where the electrical signal starts and it must be amplified thousands and thousands of times before it can be made audible to the theatre patron. Any extraneous disturbances, such as poor photocell pin and socket contacts, wiring connections, loose electrodes, low insulation resistance—any of these will cause minor crackling and other noises to be amplified as much as the actual signals and thus to reduce the quality of the performance.

All contacts must be wiped clean, all connections checked and tightened periodically, and all terminal and wiring insulation kept in first-class condition.

Since photocell voltages range to 90 volts, changes in insulation resistance due to the softening effect of lubrication oils may cause leakage and arcing which, even if very slight, will be demonstrated as sharp noisy discharges in the loudspeakers.

Since it is almost impossible to shield photocell connections from lubricating oils it is imperative that the wiring used for sound connections between the photocell and its coupling transformer or preamplifiers should be of a type that is least affected by oil.

There are on the market several kinds of wire which may be used for this pur-

pose. Rubber insulation is not recommended because rubber deteriorates quickly when exposed to oil. Synthetics such as neoprene, varnished cumbric, or thermoplastics, provide insulation impervious to oil.

AMPLIFIER WIRING

To wiring of the main amplifiers the main enemies are dirt and heat. Fuzzy lint and carbon ash must be cleaned out periodically to permit better ventilation and prevent partial shorts from developing.

Plate voltages for most amplifiers are generally high, ranging from 350 volts for 2A3 tubes, to 1250 volts for 845 tubes. With such high voltages it is extremely important to make sure that wiring insulation does not deteriorate to the point where flash-over and expensive short-circuits will develop.

High temperatures which can be attained in confined spaces will eventually ruin wiring insulation.

Periodic inspection of amplifier and rectifier wiring can determine whether the insulation is still "alive." When insulation becomes brittle and dried out, the wiring should be changed before expensive damage can occur.

High voltage transformer, choke, condenser, and socket contacts and terminals should be kept clean and tight to prevent highly progressive deterioration. Inspect frequently (*with current off*).

SPEAKER SYSTEM

Besides general cleanliness, since most loudspeakers now use some form of cable connectors it is necessary to check contact connections to prevent oxidation and loss of individual unit efficiency.

Other possible sources of contact trouble are the sliding surfaces of volume controls, the equalizing attenuators and also the change-overs.

(Most of these units were originally made with brass and bronze slides and contacts. When the surfaces oxidized, sound distortion and interruptions were often experienced. Relief could only be obtained by frequent cleaning and the application of *very thin films* of pure vaseline over the surfaces. Even frequent attention in this case, however, has never been certain to produce positive results. For this reason new silver alloys have been developed for use as contact studs and slides on variable attenuators, and whenever possible this type should replace the old and wornout troublesome devices.)

Here again it must be agreed that periodic inspection, thorough cleanliness, preventive maintenance, and judicious replacement are the only means that will produce the longest and most trouble-free life in any theatre sound equipment.

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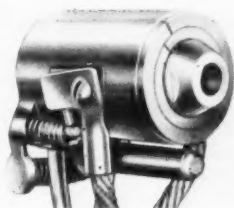
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EQUIPMENT GUIDE SHEET ON STEREO PROJECTION

PEOPLE see normally with two eyes, which are spaced approximately 2½ inches apart. Each eye creates a slightly different image of any one object because it has a different angle of view from the other.

These two *disparate* (different) images are focused on the retinas of the eyes, and the brain "interprets" all the minute differences between the two views, and constructs a single image according to those data, *plus*—and this plus factor is extremely important—plus *experience* with similar optical data in physical contact with such objects in real life ("seeing" being ultimately a mental process with the eyes the initial instruments of light transmission. See note on "wide screen" at end of this article.).

Stereoscopic motion pictures always involve two major operations. The first is the taking of two photographs of a scene from two different points. The second step is the presentation of these two views in a way which must bring the left-lens view to the observer's left eye, and the right-lens view to his right eye.

INTERLOCKING PROJECTORS

The projection of the pair of stereoscopic films requires that the shutters of both machines must operate in exact synchronism, and companion stereo frames of both films must register exactly. For this reason, both projectors must be adjusted simultaneously with proper projection test films which should include vertical and horizontal lines, blocks and titles. (The S.M.P.T.E. Visual Test Reels serve the purpose. It is important that the reels be long enough to permit adjustment and be identical).

Interlocking the two projectors may be done mechanically or electrically. Mechanical devices include rigid shafts and couplings between the projector drive shafts, and the projector shutter shafts; reduction gear and flexible shaft connections between the drive motor shafts; and sprocket and chains from projector to projector.

The most flexible interlock is the electrical *selsyn* motor interlock. As supplied in some of the present projection systems, this consists of two auxiliary synchronous drives, one of which is coupled mechanically to each drive.

An accompanying drawing shows the schematic connections for such an electrical interlock. The *selsyn* motors (rated 60 cycles with 50-ounce-inch torque displacement) are identical and are mounted close to the machine drive-motors, and coupled to them by chain and sprocket drives.

Since each *selsyn* rotor is coupled mechanically to one of the projector drive-motors, when the latter are started simultaneously they will accelerate together and then continue to run in step (variation 1° to 2°).

LIGHT POLARIZATION

The next step in the stereo projection chain is the polarization of the light beams from each

projector before it reaches the screen. A filter of light-polarizing material (such as Polaroid) is placed in front of each projector lens, with its surface at right angles to the lens axis. A convenient location is the projection ports.

These polarizing filters are very selective and will transmit light only in the plane, or axis, of polarization. An ideal polaroid filter should have a transmission coefficient of 50%; however, extra losses on the surfaces and in the actual material may reduce the transmission coefficient down to about 40%. This means that the light loss from the projector through the polarizing filter is approximately 60%.

These filters get quite warm and they should be kept cooled by a continuous air blast (a small fan trained on each accomplishes this).

The plane of polarization for the left-hand machine is 45° from the horizontal, sloping up to the left. That for the right hand machine is 45° from the horizontal, sloping up to the right. This gives the two projectors polarized light planes which are at 90° to each other.

This relationship is very important—the filters must be aligned exactly and should not be permitted to wave or to bulge out of line.

The audience is provided with spectacles which contain filters polarized at angles to agree exactly with those of the filters in the ports.

The projection screen surface plays a very important role in this process. It is absolutely necessary that the polarizing plane of the light beams remain unchanged during reflection so as not to disturb the 90° axial separation of the two beams, otherwise distortion and loss of light will occur. For that reason a metallic (*specular*) rather than a matte (*diffusive*) screen surface must be used.

Screens for stereoscopic projection are surfaced with an aluminum-bearing coating which, for best 3-D results, should contain a minimum of non-metallic pigment. (It has been determined that under good commercial conditions, leakage of vision from one eye to the wrong picture is as low as 15/100ths of 1%.)

MAGAZINES

Magazines of at least 24-inch diameter must be installed to handle the 23-inch reels. Bench rewinders for these large reels must be raised off the benches with spacers to accommodate the larger reels.

In mounting magazines the pedestals may have to be pulled back to prevent the uppers from striking the front walls.

Also if the power magazine strikes the projector pedestal, (a common fault with older types), wedges must be inserted to offset the magazines forward for clearance.

The picture changeover mechanism should be rewired to make both downers operate in common rather than in opposition. (It may be necessary to install reversing switches to permit shift-

ing from normal to stereoscopic operation, and vice versa.)

Since both projectors must be able to operate close to an hour, continuously, both arc lamps must be similarly capable of feeding positive and negative carbons without interruption.

Where existing lamps do not permit this, it will be necessary to reduce the arc current somewhat, or increase the carbon size in order to lengthen the burning time of the carbons. (Lamps which are equipped with rotating carbons will not have to be so adjusted.)

(It is possible to operate for 50 minutes with 8mm suprex positives burned at 60 amperes, and 9mm suprex at 65 amperes; however, due to the 60% light loss, theatres just up to standard for normal projection need larger lamps.)

D.C. CURRENT EQUIPMENT

Where projection rooms are equipped with single generators, these machines normally are capable of handling one arc only for any substantial time. Usually the overload of the second projector can be sustained only for a few minutes. Trying to operate both arcs steadily on these generators will eventually produce breakdown. In this case a second generator, or a proper rectifier is needed for the second arc.

Where rectifiers are used, it may be possible to operate continuously if the rectifiers were originally built for such duty. The transformer windings, and especially the rectifier plates, must not be overheated beyond their safe operating temperatures. In these cases the manufacturer should be consulted and his recommendations faithfully followed.

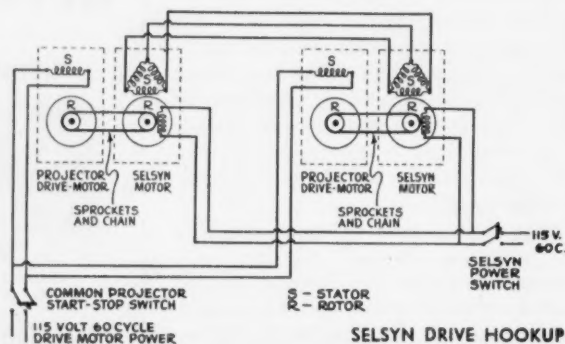
Where d.c. is supplied from city mains, no special changes are required.

There are some cases where, although a spare generator exists, the regular and spare generators have been connected to the power mains by means of double-throw switches in order to save on connected load charges. In this case new a.c. connecting switches must be provided, and the mains must be checked to see if they are of sufficient capacity for both lamps.

"WIDE SCREEN"

Enlargement of the screen image, particularly in width, aids the illusion of reality (besides adding "presence") by filling more of the field of vision than relatively small images do. Thus "wide screen" devices (Cinerama, CinemaScope, etc.) are observed to heighten perspective.

With these a very wide picture of entirely new aspect ratio is projected on a curved screen, providing an image that fills most of the field of vision of the spectator. When this is accomplished, the spectator is optically dominated by the action and his mind tends to construct a more natural image of relative movement, object sizes and perspective than it can when the eyes are also viewing much more than the picture.



Theatre **REFRESHMENT SALES**

- FIFTH ANNUAL SURVEY OF VENDING PRACTICES: page 30
- THEATRE SALES CHAMPIONS OF 1953: page 32
- SCHEMES FOR DRIVE-IN REFRESHMENT SERVICE: page 44
- OTHER DRIVE-IN PLANNING DATA: page 48
- THEATRE SALES CATALOG DATA—
 - BEVERAGES AND DRINK DISPENSERS, page 37
 - CANDY MERCHANDISE, page 37
 - CHEWING GUM, page 40
 - DISPLAY EQUIPMENT AND SERVICE BARS, page 40
 - FOOD EQUIPMENT AND SERVICE, page 40
 - ICE CREAM AND CUSTARD MACHINES, page 42
 - POPCORN MACHINES AND SUPPLIES, page 42

1953 Poll on Vending Moves Popcorn to Top

THE STEADY growth of popcorn in popularity the nation over has now made that confection—or should we say, that “delicious food?”—the kingpin of theatre refreshment vending, according to the fifth annual *Theatre Sales Survey* conducted during the first six weeks of 1953, in which exhibitors throughout the United States were polled concerning various aspects of their snack service operations.

Candy remains a staple of theatre vending, nearly all (93%) of the responding indoor theatres stating that they offer it. Only in the drive-in division of the survey did candy fall appreciably below the figures of the 1952 survey, dropping from 90% to 71%. But popcorn, while rising from 89% to 98% in the indoor division, was named by every responding drive-in as one of its articles of merchandise, whereas only 84% listed it in 1952.

Beverages continued their extension as an item of indoor theatre refreshment service during the past year, being listed by 78% of the indoor theatres responding, as compared with 64% in 1952. Soft drinks appear to be offered by all drive-ins.

An important function of these annual surveys is also to name the current *Theatre Sales Champions*—the brands of candy, soft drinks and chewing gum that lead in sales. The *Theatre Sales Champions of 1953* are announced on page 32.

Other results of the 1953 survey are presented below according to topics covered:

INDOOR THEATRES

In offering popcorn, the great majority of theatre operators—75%—prefer to have it popped right at the stand, survey figures indicate. The rest have it popped elsewhere and dispense it from warmers.

On the question of packaging for popcorn—bags or boxes—there is almost an even split. The bags have a slight edge at 45%, with boxes at 41%. A total of 14% of the exhibitors responding use both.

FIFTH ANNUAL SURVEY
conducted to develop facts of interest to theatre management concerning refreshment service methods and merchandise . . .

and naming the Best-Sellers of the year in Candy, Beverages and Chewing Gum (listed on page 32).



As to the number of sizes of popcorn packages offered, most theatres (66%) have only one; two sizes are sold by 27%, three by 6%, and 1% have four or more.

Where one size is offered, it usually sells for 10c, with 90% of all theatres reporting they sell popcorn at that price only. A 5c size is available at 16% of the theatres responding. A 15-cent and a 25-cent size are sold by 10%. The few offering larger boxes sell them for 30c, 35c and 40c.

Buttered popcorn finds its greatest boosters among circuit operators, 75% of whom report they sell it. Among the independent houses, the figure is 40%. At most theatres, whether independent or circuit, it is sold for either 20c or 25c.

MERCHANDISING OF CANDY

As a rule, theatres offer their patrons a wide variety of candy brands the average being 35 among survey respondents. This is an increase of six over last year's figure. As previously, the range is great, with the largest number of candy items offered by any one theatre being 150, the smallest two!

When the percentages are broken down between circuit houses and independently operated ones, the former are shown to carry a greater variety. The circuits offer an average of 48 different bars; while the independents average 25.

Asked which is more popular in their operation—the nickel bar or the dime bar—

theatre operators were practically unanimous in naming the former. Fully 84% of all those reporting say the nickel product outsells the dime bar. However, 62% of the exhibitors polled reported the dime bar is a good seller. Nevertheless, only 35% of them would like to stock more 10c kinds.

An increasing number of cello-window box and bag specialties have been placed on the market by candy manufacturers, and theatre operators were asked whether they have been stocking more of these than previously, to which 35% said yes.

In an effort to solve the “profit problem” with candy, some exhibitors have raised the price of nickel and dime products to 6c or 7c and 11c or 12c. Such a practice is prevalent among only 25% of the theatres polled, however.

Exhibitors were further asked their opinions of the practice of placing price tags on candy. Proponents of the idea believe that grouping candy according to price, and giving prominence to the more expensive items help to increase dollar volume of sales. On the other hand, some exhibitors believe the practice tends to make the customer unnecessarily “price-conscious” and thus to discourage purchases. The survey showed the latter to be in the majority, since only 25% of all theatres responding indicated they use price tags.

Growing somewhat over last year is the handling by theatres of boxed candies to sell
(Continued in column 3, page 32)

It pays to give your patrons what they want
ON THE SCREEN



and at the
CONCESSION STAND
too!

For extra profits...display popular
Wrigley's Spearmint, Doublemint, and Juicy Fruit Gum

AG 133



THEATRE SALES

Champions of 1953

■ ■ ■

CANDY...

**Almond Joy
Baby Ruth
Beich Chocolates
Clark Bar
Dots
Hershey
Jujufruits
M & M's
Mars
Milk Duds
Milky Way
Mounds
Necco Wafers
Nestle's Bars
Snickers
Tootsie Rolls**

BEVERAGES

**Canada Dry Orange,
Grape, Lemon-Lime
Coca-Cola
Dad's Root Beer
Hires Root Beer
Mission Dry Orange
Orange Crush**

GUM...

**Beech-Nut
Dentyne
Doublemint
Juicy Fruit
Spearmint**

Manufacturers of Champions not identified in the brand names are as follows: **CANDY**—Almond Joy and Mounds, Peter Paul, Inc.; Baby Ruth, Curtiss Candy Company; Clark Bar, D. L. Clark Company; Dots, Mason, Au & Magenheimer Company; Jujufruits, Henry Heide Company; Mars, Milky Way and Snickers, Mars, Inc.; Milk Duds, M. H. Holloway Company; Necco Wafers, New England Confectionery Company; Tootsie Roll, Sweets Company of America. **GUM**—Dentyne, American Chicle Company; Doublemint, Juicy Fruit and Spearmint, William Wrigley, Jr., Company.

(Continued from page 30)

at 25c and up. In 1952 only 8% reported stocking them, while this year the figure is 12%. Of those who do sell them, the great majority—88%—prefer the 25c product. Only 37% offer boxed candies priced at from 30c to 50c; and only 4% handle those priced from 50c to \$1. A very few—2%—said they stock candy selling for more than \$1.

At the other price extreme, penny candies—sometimes provided as an accommodation for youngsters—are offered by 44%.

CHEWING GUM SALES

Of all exhibitors reporting, 65% sell chewing gum, and most of those who do—90%—find that gum sales help in moving other merchandise, that patrons stopping primarily for gum tend to be tempted to buy other items. The same percentage, therefore, displays it very prominently.

Those exhibitors who do not sell gum object to it for the usual reasons: "children place it on the seats"—"too hard to keep cleaned up"—"decreases popcorn sales"—"not enough profit."

However, one exhibitor who stopped selling chewing gum found that patrons were buying it on the outside, and "would even ask permission to leave the theatre to go get it." In consequence, he is now stocking it again!

OTHER REFRESHMENTS

Among the other refreshment items, ice cream is sold by 49% of all indoor theatres reporting. Preference at these theatres was indicated for ice cream on a stick (58%), followed by cups and sandwiches (both 42%), cones (34%), chocolate covered ice cream (16%), and snow cones (15%).

Of the theatres responding, 11% have soda fountain service at their refreshment counters. A few theatres also offer such items as frankfurters, potato chips, peanuts, nuts, pretzels, sandwiches and cookies.

VENDING METHODS

In the methods adopted to merchandise refreshments, some variation is shown according to size of theatre. Regardless of seating capacity, however, 95% of all theatres sell over a counter or stand. Only 5% sell by machine only (a slight decrease from last year's 7%), and both counter service and a cup coin dispenser are used for soft drink service by 18% of all theatres reporting.

In analyzing survey returns concerning vending methods, replies were broken down into three groups—theatres of less than 1000 seats, theatres of 1000 to 2000 seats, and those of more than 2000 seats. Only

Announcing

The New
CRETORS
"Olympic"

**THE WORLD'S NEWEST AND FINEST
OVER-THE-COUNTER MODEL
POPCORN MACHINE!**

with animated "Olympic" Torch
... fully illuminated!



WITH TWIN ELEVATOR WELLS AND AUTOMATIC PUSH-BUTTON SEASONING PUMP

**LOOK AT THESE YEARS-AHEAD
MONEY-MAKING FEATURES!**

Two Elevator Wells for Greater Warming Capacity—Each Elevator Well Holds the Equivalent of 100 Boxes of Popped Corn!

New Forced-Air Heating System Thermostatically Controlled Keeps Corn Crisp and Fresh Always Regardless of Moisture Conditions.

New Automatic Electric Seasoning Pump Operates at the Push of a Button!

Time-Tested Super-Production Gas or Electric Steel Kettle.

New Over-the-Counter Design with Plenty of Working Space for Two Busy Attendants.

Heated Seasoning Urn. All-Metal Construction and Many Other Features.

Here's a magnificent new CRETORS destined to bring new honor to the world's First Name in popcorn machines — and new profits to concession operators . . . It's the all-new CRETORS "Olympic," a smooth streamlined beauty combining CRETORS' world-champion money-making power with over-the-counter service . . . No other popcorn machine has ever incorporated so many new features and innovations to help you make more money . . . There's a sleek new all-metal cabinet finished in gleaming enamel trimmed with stainless steel to give your concession more glamor and sales appeal . . . And there's a champion's Heart of Steel — an exclusive-design time-tested steel kettle that outpops all others, according to independent side-by-side tests, and gives years of trouble-free service . . . Write for full details about this new machine today!

CRETORS Corporation National Sales Offices • Popcorn Building • Nashville, Tenn.

**WRITE TODAY!
NO
OBLIGATION!**

CRETORS Corporation
Box 1329-M
Nashville, Tenn.

Please rush full information about the new CRETORS "Olympic" Over-the-Counter Model popcorn machine

NAME _____

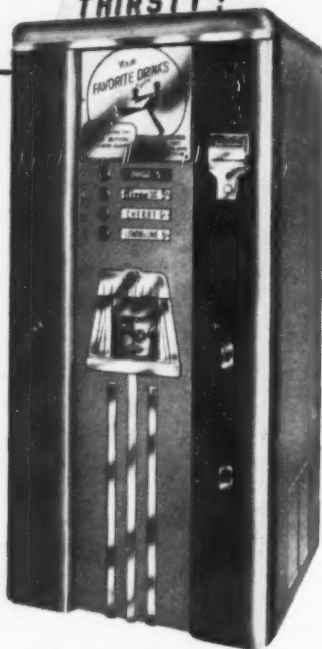
ADDRESS _____

CITY & STATE _____

Compare Spacarb

THE CHOICE OF
BETTER THEATRES EVERYWHERE

THIRSTY?



...the high speed cup
machine designed for short-
rush demands

1. **THEATRE-DESIGNED JUMBO CAPACITY** ... the modern way to take care of customer demand during intermission rushes easily, speedily ... no lost sales due to slighted patrons.
2. **EYE APPEAL** ... Cool, modern exterior blends with your lobby.
3. **INCREASED VOLUME & HIGHER PROFITS** ... through Spacarb 4-flavor selectivity. Patrons love to use Mix-A-Drink for new flavor thrills. Save on overtime to attendant, too.

Let the Spacarb Operator in your locality tell you more or send today for further details.
Write for FREE BOOKLET

SPACARB, Inc.
America's Oldest Manufacturer and Operator
of Automatic Beverage Dispensers
375 Fairfield Ave. • Stamford, Conn.

SPACARB, INC.
375 Fairfield Avenue, Stamford, Conn.

☐ Please send free booklet
☐ Please arrange to have your operator call on me.
☐ I am interested in purchasing Spacarb equipment.
☐ Send full details of national financing plan.

NAME _____
THEATRE _____
ADDRESS _____
CITY & STATE _____

WRITE WHILE YOU WAITING Today

a slight difference was revealed between the medium and the large theatres. Practically all sell over a counter, and 15% of each group employ a machine *along with* their counter service.

Among the smaller theatres, however, there is a much heavier reliance on machines, with 10% using them exclusively. Those using a machine *in addition* to a sales counter amount to 25%.

In offering beverages, the survey shows, 56% of the responding theatres, regardless of size and location, sell over the counter, without any coin machines at all, while 39% combine both methods. Among those using both, 57% find that the machine does *less* business than the stand in drink sales.

With ice cream, the favored method of selling by attendant, is over the counter. Only 8% of the theatres reporting use a self-service cabinet. This shows a wider acceptance of the latter method than last year, however, when the total was only 1%.

ADVERTISING THE SERVICE

To boost the sales of refreshments, exhibitors use a number of devices, the most popular of which is *trailers*. A total of 70% of all theatres reporting use them.

The next favored method is *signs* and *posters* (60%). Special stand decorations and costumes for attendants rank 50%.

Next in favor are tie-ups between refreshments and attractions (45%). Only 8% use newspaper and program advertising.

Of all exhibitors reporting, 35% said they do not exploit snack service at all.

DRIVE-IN THEATRES

With the exception of popcorn and soft drinks, which are named by every drive-in operator reporting in the survey, kinds of merchandise offered in this field are quite variable even among the items commonly associated with refreshment service at outdoor theatres. Ice cream is sold by nearly all—91%; but the great American "hot dog" is not sold by every drive-in after all. Frankfurters are offered by only 82% of the drive-ins responding. And hamburgers achieve only a rating of 29%.

As noted, 70% of the outdoor operations reporting offer candy. Chewing gum is sold by 34%, peanuts by 25%. In the frozen confection category, snow cones are cited by 24%.

Among food items, "french-fries" are offered by only 20% of the responding drive-ins, while potato chips are named by 28%. Coffee is an available beverage at but 30%, and hot chocolate by only 8%.

Food specialties named include doughnuts, hot tamales, fried chicken, barbecued

meat sandwiches, fritos, chili, clams, cookies and pretzels.

Experiments with other methods, including self-service and "station" schemes, have not yet made the general counter system old-fashioned; 53% of the drive-ins reporting still use it. But the cafeteria method has been adopted by 27%, while 20% employ the station system. Only 10% supplement the stand service with car hops.

Most soft drink sales are made over the counter. This method is used by 80% of the drive-ins reporting. Coin machines, dispensing in cups, are used by 10%, while bottle machines are installed at 15%.

In vending popcorn, drive-in exhibitors agree with indoor operators that popping at the stand is preferable to doing it elsewhere and dispensing from warmers. A total of 84% use popping machines. On the whole they prefer boxes to bags for their packaging—69% for the former, and 21% for the latter. Both types are used by 10%.

Drive-in patrons also seem to prefer a 10c size of popcorn package; that is sold by 95% of the responding operators. A 15c size is offered by 8%; 25c by 23%; 20c by 3%; and 50c by 1%. Only one size of popcorn is sold by 63% of the drive-ins; while 26% offer two sizes, and 4% offer three. Buttered popcorn is sold—mostly for 20c and 25c—at 37% of the drive-ins.

BOOSTING PRE-SHOW SALES

To encourage pre-show sales of refreshments, drive-in operators have adopted a number of devices, the most popular being *spot announcements* between music over the speaker system, which is used by 95%. *Trailers* are also popular, with 70% reporting their use.

Other devices include *posting ticket stub numbers in the stand* for "lucky winners" (10%); *conducting contests in the snack building* (5%); and *posters* (5%). Some of the exhibitors (10%) credit their children's playgrounds with attracting an early audience and boosting early refreshment sales.

Intermission time at drive-in theatres is usually 10 minutes, the survey shows. Among theatres reporting, 58% have one this length; next comes 15 minutes, adopted by 20%. Other periods reported are 5 minutes, 6%; 12 minutes, 5%; 6 minutes, 4%; 8 minutes, 1%; and 3 minutes, 1%.

From some quarters of the industry there has come criticism of drive-in operation for placing too much emphasis on refreshment service, instead of stressing the show. Drive-in operators were asked how they feel about this in the 1953 Theatre Sales Survey, and 42% agreed with that criticism. And even more of them agreed that *where it is true*, it is an "ill-advised practice." Only 11% think that the snack sales *should* take precedence over the performance.

ADVERTISERS

Alphabetical INDEX

Reference numbers for use in inquiry post cards are given at left of advertiser's name. NOTE: See small type under advertiser's name for proper reference number where more than one kind of product is advertised.

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1—ADLER SILHOUETTE LETTER CO.....	55
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2—AMERICAN SEATING CO.....	8
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3—ANDERSON & WAGNER, INC.....	42
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7—BEREZNY ENG. & MFG. C.....	56
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8—BREUER ELECTRIC MFG. CO.....	59
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9—CARBONS, INC.....	22
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10—CENTURY PROJECTOR CORP.....	62
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11—COCA-COLA CO., THE.....	2nd Cover
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12—CRETORS CORP.....	33
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13—DAD'S ROOT BEER CO.....	40
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19—GRIGGS EQUIPMENT CO.....	19
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To Quigley Publications Service Department:

Please have literature, prices, etc., sent to me according to the following reference numbers in 1953 Market & Operating Guide—

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NEW YORK, N. Y.

BUSINESS REPLY CARD

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30—	MANLEY, INC. Popcorn machines and supplies. Offices in principal cities.	41
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Theatre Sales CATALOG DATA

Beverages and Drink Dispensers

ANDERSON & WAGNER, 8701-11 South Mettler St., Los Angeles 3, Calif.
Beverage dispensers, cooling and carbonation machines.

"EVERFROST" SODA BAR: Self-contained; dispenses two or three drinks; carbonated water pre-cooled mechanically.

DISTRIBUTION: National, through theatre equipment dealers.
(SEE ALSO PAGE 42)

CANADA DRY GINGER ALE, INC., 100 Park Avenue, New York 17, N. Y.
Beverages and merchandising dispenser units.

TYPE B DISPENSER (CANADA DRY): Delivers measured ounce of beverage syrup on press of button, reloads automatically. Also delivers continuous flow. Cap. standard gal. jug; 7½ ins. square, 16 ins. high. Loaned to qualified theatre operators for use with any of Canada Dry's nine syrup flavors, with proper identifying decal on outer shell. Valve, nozzle and case of plastic; clamp padded to prevent marring of counters. Recessed guide insures centering of glass under spout. Easy to clean.

BEVERAGES: Available in the following flavors: Ginger Ale, Spur Cola, Hi-Spot Lemon, Root Beer, Orange (still or carbonated), Lemon-Lime, Grape, Cream Soda, Cherry.

DOMESTIC DISTRIBUTION: Through 25 Canada Dry company-owned plants, and Canada Dry syrup jobbers in several hundred cities.

CARBONAIRE, INC., 114 Fern Ave., San Francisco, Calif.
Beverage dispensers.

THREE DRINK DISPENSER: Serves any three drinks of your choice, either carbonated or non-carbonated.

DISTRIBUTION: Dealers and direct.

THE COCA-COLA COMPANY, P. O. Box 1734, Atlanta, Ga.

BOTTLED COCA-COLA and MACHINES for vending.

COCA-COLA SYRUP and MACHINES for vending.
(SEE ALSO SECOND COVER)

DOMESTIC DISTRIBUTION: Territorial franchise bottlers

COLE PRODUCTS CORP., 39 S. LaSalle St., Chicago, Ill.
Beverage Dispensers.

"COLESPA" MAGNIFLO 1,200: Three flavors, 1,200 cup cap., 2,200 drink syrup cap., Duotone taps, width 26 ins., ht. 67 ins., depth 24 ins. Choice of colors.

"COLESPA" THREE-FLAVOR CUP DISPENSER: 600 cup cap., 1,400 drink syrup cap.; width 26 ins. ht. 67 ins. depth 24 ins. Maroon and grey finish.

"COLESPA" SIX-FLAVOR THEATRE MODEL: Illuminated advertising space of 4 ft. width for theater announcements; 1,200 cup cap. Maroon and gold finish.

BRANCHES: Baltimore; Philadelphia; Roanoke; Kansas City; Albuquerque; New York; Pittsburgh; New Orleans; San Antonio; Jacksonville, Fla.; Birmingham; Portland, Ore.; Seattle, Wash.; Chicago; St. Louis; Charlotte, N. C.; Minneapolis; Los Angeles; Cincinnati; Detroit. Canada: Cole Products Canada, Ltd., 652 Bayview Ave., Toronto, Ontario.

DAD'S ROOT BEER COMPANY, 2800 N. Talman Ave., Chicago 18, Illinois.

SYRUPS AND CONCENTRATES: DAD'S (ready-to-use) root beer fountain syrup; DAD'S (14-strength) root beer fountain concentrate; DAD'S Vendor Fountain Concentrate.

ROOT BEER BARRELS AND DISPENSERS: DAD'S (Multiplex) 1 to 3 drink automatic fountain dispensers in both counter and rail models, and (Multiplex) 1 and 2 drink automatic barrel dispensers in 8-17-45 and 60 gallon sizes; either ice cooled or electrically refrigerated units.

DAD'S (Uniflow) Units, completely self-contained, mechanically refrigerated, with pressurized syrup systems which dispense 3 to 5 (carbonated as well as non-carbonated) finished drinks.

COOLERS AND CARBONATORS: DAD'S (Heat X-Change) and Temprite liquid coolers; Temprite cooler carbonators; liquid carbonic, Bastian and Blessing, and Temprite carbonators.

(SEE ALSO PAGE 40)

DRINCOLATOR CORP., 3700 Oakwood Avenue, Youngstown 9, Ohio.

Dispensers.

THREE-DRINK DISPENSER: Serves 3 different cold beverages, two carbonated, one non-carbonated. Cap. 1500 drinks, 100 gal. per hr. Counter 42 in. high, 28 in. deep, 26½ in. wide.

DRIVE-IN TWO DRINK: 1,000 drink cap., two carbonated beverages.

DISTRIBUTION: Direct.

THE CHARLES E. HIRES CO., 206 South 24th Street, Philadelphia 3, Pennsylvania.
Hires Root Beer.

FOUNTAIN SYRUP: Packed 4 gals. to case.

CARBONATED IN BOTTLES: 8 and 12 oz., 24 bottles to case; 26 oz. 12 bottles to case.

(ALSO SEE PAGE 43)

BERT MILLS CORP., Lombard, Ill.

Coffee dispensers.

COFFEE CUP DISPENSER: Installation requirements are 110, 120-volt c.e. 60 cycle electrical outlet and water connection. Dimension of unit, 69 ins. high, 26 ins. wide, 21 ins. deep. Equipped with automatic change maker, accepting nickels, dimes and quarters.

DISTRIBUTION: Direct.

PRINCE CASTLE SALES DIVISION, 121 W. Wacker Drive, Chicago, Ill.

Drink mixer and malted milk dispenser.

MULTIMIXER: Fountain drink mixer can prepare 5 drinks at same time. Unit is powered by ¼ h.p. motor, operating 60 cycles a.c. Overall height is 19 ins. wide, 14 ins. deep, front to back 12 ins.

MALTED MILK DISPENSER: Glass jar attached holds 6 lbs. of powder and dispensing powder in ¼, ¼ or ¾ oz. Height is 28½ ins.

DISTRIBUTION: Direct.

MISSION DRY CORPORATION, P. O. Box 2477, Terminal Annex, Los Angeles 54, Calif.
Syrups and dispensers.

SYRUPS: Orange, grape, lemon-lime fruit juice syrups, 5-to-1 mix, ready to use.

DISPENSERS: Majestic and Buckingham electrically cooled dispensers; Mission "SC" and Schmix ice-cooled dispensers; single and multiple flavors; 1 to 10-gal. cap.

BRANCHES: 510 N. Dearborn St., Chicago; 105 Hudson St., New York.

SPACARB, INC., 375 Fairfield Avenue, Stamford, Conn.

Automatic Soft Drink Vendor.

MODEL D-53: 1,000 cup cap., 3 flavors. Optional features include 4th flavor, special theatre lighting, non-carbonated and hot attachments. MIX-A-DRINK feature is standard equipment.

(SEE ALSO PAGE 34)

DISTRIBUTION: All principal cities of U. S. (Also distributors of Hebel ice cream machine and Bert Mills coffee bar.)

Candy Merchandise

FRED W. AMEND CO., Danville, Ill.

Jelly candy in packages only.

CHUCKLES: 5c size packages 24 ct. and 100 ct.; 10c size packed 60 count only. Also available in family size package.

CHUCKLES SPICE DROPS: One lb. size package.

DOMESTIC DISTRIBUTION: Direct and through brokers.

PECAN PETE: Chocolate covered bar, filled with nougat and pecans.

PAUL F. BEICH COMPANY, Bloomington, Illinois.

Candy.

WHIZ: Delicately flavored marshmallow center with milk chocolate coating, covered with peanuts; 5c size only.

HANDY SIZE SMALL PACKAGES: Cream peanut clusters, mint patties, nougats, caramels, and assorted creams; mint covered with bittersweet chocolate; old fashioned banana flavored taffy; other items, milk chocolate.

THE D. L. CLARK CO., Martindale, Itasca, Reedsdale and Corry Sts., Pittsburgh 12, Pa.
Chocolate-coated candy bars.

CLARK BAR: Peanut butter and cream caramel center with a milk chocolate coating; 5c and 10c sizes; white, orange and blue wrapper.

DOUBLE COCONUT BAR: Coconut and vanilla cream center with bittersweet chocolate coating; two pieces in one white, orange and blue package.

HAWLEY & HOOPS, INC., 200 North 12 Street, Newark, N. J.
Confectionery.

M & M's: 120 count, 5c package; 24 count, 5c package. Packed 24 to a box, 24 boxes per case. Family package, 7 oz., packed 24 to a case.

HENRY HEIDE, INC., 313 Hudson Street, New York 13, N. Y.
Candy.

JUJYFRUITS: Chewy gum candies, assorted colors and flavors, in attractive box. Net wt. 1½ oz.; 24 boxes to ctn. Retail at 5c.

JUJUBES: Small pure gum candies in assorted colors and flavors, 1½ oz. in wax paper lined boxes.

LICORICE PASTILLES: Natural gum, licorice flavored (good for dry throat). 1½ oz. in wax lined box.

CHOCOLATE SPONGE: Double bar, unique porous center, chocolate coated 1 oz. yellow and brown glassine wrap.

CHOCOLATE FLAVOR BABIES: Tiny figures, dairy cream candy, attractive wax-lined box. Net wt. 1½ oz.

JELLY BEANS: Five colors, flavors. Red, blue and white heat sealed cello package. Net wt. 1½ oz.

PORTRAIT OF A BEST SELLER



MADE BY HENRY HEIDE, INCORPORATED, NEW YORK, N.Y.



\$7950
F.O.B.
Factory

This Sensational New **BUTTER SERVER**
makes Dairy Butter a Big Booster for You
DAIRY SERVICE CO.

BOOM SALES with BUTTER!

Stimulate your popcorn profits by serving real creamery butter.

- ★ **PROFITABLE**—\$3.00 or more per pound of butter.
- ★ **EYE-APPEALING**—Butter is enhanced with light shining through from under bowl.
- ★ **ACCURATE**—Every serving of butter dispensed simply and accurately.
- ★ **DEPENDABLE**—Developed and produced by experts thoroughly acquainted with the field.
- ★ **SANITARY**—Disassembled, easily cleaned and reassembled in a few minutes. Non-drip spout eliminates waste and mess.
- ★ **ECONOMICAL**—Well insulated to retain heat and reduce use of electricity.
- ★ **TROUBLE-FREE**—Few moving parts, constructed of hardened steel, reducing replacements.

Main Office and Factory:
100 E. MAIN ST., MENOMINEE FALLS, WIS.

DIAMOND LICORICE DROPS: Round button type hard licorice candy. Red, yellow and black heat sealed cello pkg. Net wt. 1½ oz.

(ALSO SEE THIS PAGE)

HERSHEY CHOCOLATE CORP., Hershey, Pa.

Chocolate bars and other chocolate products.

CHOCOLATE BARS: Almond, Milk, Krackel, Mr. Goodbar and Semi-Sweet, available in 5c, 10c and larger bars; 5c items packed 200 or 24 count; 10c items packed 100 or 24 count; large bars 12 count or 72 bar assortments.

CELLOPHANE BAG ITEMS: Milk Chocolate Kisses and assorted miniature bars.

DOMESTIC DISTRIBUTION: Direct.
Cable Address: HERSHEY.

M. J. HOLLOWAY & CO., 308 W. Ontario St., Chicago, Ill.

Bar, package and box candy.

MILK DUDS: 5c pkgs. in 24 and 100 count; 10c pkgs. in 12 and 60 count; 25c pkgs. in 24 count.

HOLLOWAY SUCKERS: In 24 and 70 count; a safety stick is used in all 70 count packages for theatre use.

MILK PAIS: In 24 and 100 count.

BLACK COW SUCKER: In 24 count and 70 count with safety stick.

C. O. D. SUCKER: In 24 count and 70 count.

BABY MINTS: 5c pkgs. in 24 and 100 count; 10 pkgs. in 24 and 60 count; 25 pkgs. in 24 count.

DELUXE MIX: 5 pkgs. in 24 and 100 count; 10c pkgs. in 24 and 60 count; 25c pkgs. in 24 count.

DOMESTIC DISTRIBUTION: All confection theatre supply dealers, and candy and tobacco wholesalers.

HOLLYWOOD BRANDS, INC., Hollywood Candy Division, 836 South Chestnut St., Centralia, Ill.

Candy bars and packages.

MILK SHAKE: 5c bar, in 24 and 120-count; 10c double bar in 60-count.

BUTTER-NUT: 5c bar, in 24 and 120-count; 10c double bar in 60-count.

PAYDAY: 5c bar, in 24 and 120-count.

SMOOTH SAILIN': 5c bar, in 24 and 120-count; 10c double bar in 60-count.

RED SAILS: 5c bar, in 24 and 120-count.

3 BIG BEARS: 5c bar, in 24 and 120-count.

BIG PAY: 5c bar, in 24 and 120-count.

ZERO: 5c bar, in 24 and 120-count; 10c double bar in 60-count.

POLAR: 5c bar, in 24 and 120-count.

NUT SUNDAE: 5c bar in 24 and 120-count.

ALMOND NOUCET: 5c bar, in 24 and 120-count.

SPOT PECAN: 10c bar, in 60-count.

MILK SHAKE TV: 12 oz. package, 24 packages per case.

BUTTER-NUT TV: 10 oz. package, 24 packages per case.

MASON, AU & MAGENHEIMER, P. O. Box 549, Mineola, N. Y.
Candy.

MASON PEAKS: Chocolate covered coconut; 1½ oz. 120 count per carton; also 24 count, 18 boxes to shipping case.

MASON MINTS: Chocolate covered mint patty; 1½ oz. 120 count per carton; also 24 count, 18 boxes to shipping case.

PECAN COCONUT: Pecans and coconut with milk chocolate coating; 1½ oz. 120 count per carton; also 24 count, 18 boxes to shipping case.

BLACK CROWS: Licorice flavored gum drops; 1½ oz. 120 count per carton; also 24 count, 18 boxes to shipping case.

DOTS: Fruit flavored gum drops; 120 count per carton; also 24 count, 18 boxes to shipping case.

DOMESTIC DISTRIBUTION: Direct.

Motion Picture Herald, March 21, 1953

NESTLE COMPANY, INC., 2 William St., White Plains, N. Y.
Confectionery.

NESTLE'S CHOCOLATE BARS: Nestlé's Crunch, Milk and Almond regular weight small bars are available in 100 count pack (4 100s per case), in addition to the regular pack of 24s. Nestlé's light weight Milk and Crunch are also available in the same 100 count pack. Nestlé's Milk, Almond and Crunch 10c bars in regular pack, 12 boxes per case, plus regular and light weight pack 100 count (100 Bars per shipping case).

OTHER BAR CANDY: Nestlé's Economy Bars—Crunch, Milk, Almond, Hazelnut and Semi-Sweet available in regular pack, 12 bars per box, 6 boxes per case. Nestlé's Jumbo Blocks, Crunch, Milk and Almond available in regular pack, 4 bars per box, 6 boxes per case. Also available in packs of 12 bars per case.

SPECIALTY NUMBERS: Nestlé's 10c Nibbles; Milk Chocolate Morsels packed 100 bags to the case. Nestlé's 10c Semi-Sweets, Semi-Sweet Morsels packed 100 bags to the case. Crunchettes, bite size pieces of Nestlé's Crunch, packed in 6 oz. boxes, cellophane wrapped, packaged 24 boxes to the case. Nestlé's Cholets available as a penny seller, individually molded, foil wrapped, in 5 lb. display box, 6 boxes per case.

(ALSO SEE PAGE 43)

NEW ENGLAND CONFECTIONERY CO., 254 Massachusetts Ave., Cambridge 39, Mass.
Candy bars and packages.

NECCO WAFERS: Sugar wafers in an assortment of 8 flavors. 2-oz.

SKY BAR: Milk chocolate covered bar with four different flavored centers in one bar. 1-oz.

CHOCOLATE PEPPERMINTS: 6 individual chocolate covered peppermint patties in a box. 1 1/4-oz.

FRUIT TREATS: 3 different true fruit cream centers in one bar. 2-oz.

NECCO OK: Milk chocolate coated peanut-molasses crunch. 3/4-oz.
All items packed 24 or 100 count.

PETER PAUL, INC., New Haven Road, Naugatuck, Conn.
Confectionery.

MOUNDS: Double-bar bittersweet chocolate coconut centers. Weight 2 ozs.

ALMOND JOY: Double-bar milk chocolate coconut centers topped with whole almonds. Weight 2 oz.

WALNETTOS: Ten individually wrapped caramels containing chopped walnut meats.
Weight 1 1/4 ozs.

PETER PAUL, INC., New Haven Road, Naugatuck, Conn.

MOUNDS: Double-bar bittersweet chocolate coconut centers.

ALMOND JOY: Double-bar milk chocolate-coconut centers topped with whole toasted almonds.

WALNETTOS, COCONETTOS, CHOCLETTOS: Individually wrapped walnut, coconut and chocolate flavored caramels in boxes.

QUAKER CITY CHOCOLATE & CONFECTIONERY CO., INC., 2136-60 Germantown Ave., Philadelphia 22, Pa.
Licorice flavored candy.

GOOD AND PLENTY: Pink and white sugar coated licorice flavored candies, boxed, 1 1/4 oz, moisture-proof cellophane wrapped.

SPIKE GUM DROPS: Assorted flavors, spiced miniature gum drops. Boxed, 1 1/4 oz, wax-paper lined.

SPEARMINT LEAVES: Spearmint flavored gum candy miniature leaves. Boxed, 1 1/4 oz, wax-paper lined.

ORANGE SLICES: Orange flavored miniature candy gum orange slices. Boxed, 1 1/4 oz, wax-paper lined.

SCHUTTER CANDY DIVISION—factory, 4730 West Augusta Blvd., Chicago, Ill. Offices: 1501 Locust St., St. Louis 3, Mo.
Candy.

OLD NICK BAR: Chocolate-covered made of caramel fudge and peanuts; packed 100 to the case or 24 to the box. Also packed 100 to the case in 10c size.

BIT-O-HONEY: Non-chocolate chewy type nougat with almonds, packed 100 to the case or 24 to the box. Also 10c size packed 72 to the case.

GOLDEN HARVEST: Chocolate-covered nougat center with caramel, packed only 72 to the case in 10c size.

FREEZ-KING Double Feature

*Doubles Your Speed...
Doubles Your Profits!*

NEW
for
'53



NEW MODEL 950

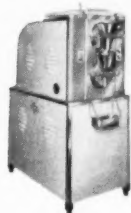
Double feature. Self-contained freezer. King Size power. Two complete freezers in one stand. Each unit operates independently. Every portion perfect. Seven gallon mix storage, refrigerated. 36" wide, 24" deep, 65" high.

Exclusive FREEZ-KING Features

- Patented Automatic Feed
- Seeing Eye Dial
- Automatic Temperature Control
- Patented Back Feed
- Spigot or draw-off gate on all models

All parts easily and quickly accessible for cleaning. Amazingly simple to operate. Gleaming, streamlined beauty in every model.

America's
Most Complete
Line of
CONTINUOUS SOFT ICE
CREAM FREEZERS!

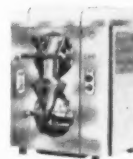


Models 500-600. Drive-in capacity output. Counter or floor models. 3 1/2 gallon refrigerated mix.



Model 410 for drive-in or busy retail merchant. Size 32" x 20" x 66". 3 1/2 gallon refrigerated.

Models 900-900A - 900B. Self-contained. Low priced economy model. Size 24" x 18" x 68". 3 1/2 gallon refrigerated mix compartment.



Model 403. Counter model. Space economizer. Capacity depends on size of remote compressor. 24" x 18" x 32".

WRITE! Learn how you can earn big profits with FREEZ-KING

THE FREEZ-KING CORPORATION

2518 W. Montrose Ave., Dept. 55, Chicago 18, Ill.

PLUS PROFITS FOR YOU with this "Oscar" Winner

DAD'S Awarded a coveted
Best Seller "Theatre
Sales Championship" by
Better Theatres in 1953

DAD'S

OFFERS YOU THESE PLUS FEATURES:

- 1. MORE DRINKS to the gallon**
One gallon of DAD's ready-to-use Fountain Syrup yields 146 7-oz. drinks.
- 2. PLUS PROFITS**
Additional drinks from DAD'S, the Leader*, mean plus profits for you. Regardless of what you're presently paying for syrup—DAD'S "extra yield" per gallon gives you higher gross profit than does any other nationally advertised brand.
- 3. SAVE ON CUPS**
Extraordinary low, low price to DAD'S users on cups. Ask us about it!

*According to Copper's Farmer Survey

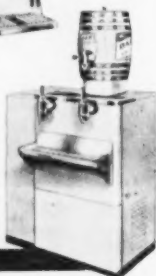
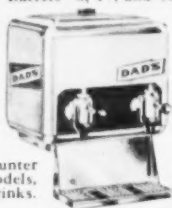
DAD'S AUTOMATIC DISPENSERS DO A BETTER JOB

DAD'S BARRELS draw the crowds!
Barrels—8, 17, and 45 gal. sizes.



DISPENSERS—counter
and rail-type models,
serve 1, 2 or 3 drinks.

DAD'S UNIFLOW UNITS—self-
contained, mechanically re-
frigerated, for heavy traffic
spots, dispenses DAD'S and up
to 4 other drinks.



Write Us For Information Today

DAD'S ROOT BEER COMPANY
2800 N. Telman Ave. • Chicago 18, Ill.

SWITZER'S LICORICE COMPANY, 612 North
1st St., St. Louis 2, Mo.

Candy.

LICORICE: 5c bars, 10c bars; Bite-Size in bags.
DISTRIBUTION: Direct.

Chewing Gum

BEECH-NUT PACKING COMPANY, Canajo-
harie, N. Y.

Chewing gum.

STICK GUM: Peppermint.

DOMESTIC DISTRIBUTION: Direct and conces-
sionaires.

WILLIAM WRIGLEY, JR., CO., 410 N. Michigan
Ave., Chicago, Ill.

Chewing gum.

STICK GUM: In flavors indicated by the three brand
names: Spearmint, Doublemint (regular peppermint),
and Juicy Fruit.

CANDY-COATED GUM: "PK's"—peppermint gum
inside peppermint candy.

(ALSO SEE PAGE 31)

Display Equipment And Service Bars

THE COLUMBUS SHOW CASE COMPANY, 850
West Fifth Ave., Columbus 8, Ohio.

Merchandise Display Equipment.

CASES: Many models of showcases, both floor and
wall type.

HELMCO-LACY, 1215 Fullerton Ave., Chicago
14, Ill.

Cabinet Fountainette

Four models available, fits all standard ice cream
cabinets, provides complete sundaes, milk shake and
malted milk service. All stainless steel.

DISTRIBUTION: Dealers only.

Food Equipment and Service

ACTON PRODUCTS, INC., 605 S. Summit St.,
Arkansas City, Kansas.

"SNACKMASTER" PORTABLE COOLERS: Two
models holding from twelve to 24 bottles of beverages;
completely insulated; cooled by ice. Also manufac-
turers of bottle openers for the home and beverage
trade.

DISTRIBUTION: National and Export, direct from
factory and through jobbers and dealers.

J. J. CONNOLLY, INC., 457 West 40th St., New
York 18, N. Y.

Roller grills.

MODEL A: Capacity 25 at a time or 500 per hr.
Length 38 ins., width 16½ ins., height 11½ ins.
Weights: Net 60 lbs., shipping 81 lbs., 110 volts, 60
cycles, AC, 8 amps, 900 watts.

MODEL C: Capacity 10 at a time or 200 per hr.
Length 24 ins., width 14 ins., height 6 ins. Weights:
Net 30 lbs., shipping 43 lbs., 110 volts, 60 cycles, AC,
4½ amps, 500 watts.

MODEL F: Combination frankfurter and hamburger
unit. Capacity 200 franks per hr. on roller grill. Grid-
dle plate 14x14 ins., 430° F. high, 250° F. low. Broils
9 hamburgers at a time, 180 per hr. Length 34½ ins.,
width 14 ins., height 7 in. Weights: Net 65 lbs.,
shipping 84 lbs., 110 volts, 60 cycles, AC, 11 amps,
1,250 watts.

DAIRY SERVICE COMPANY, 100 East Main
Street, Menominee Falls, Wis.

Butter serving dispenser.

BUTTER SERVER: Automatically dispenses servings
of butter. Constructed of steel. Non-drip spout.

DISTRIBUTION: Direct.

(ALSO SEE PAGE 38)

HELMCO-LACY, 1215 Fullerton Ave., Chicago
14, Ill.

Food warmers, fudge warmers, hot fudge
pump, chocolate dispenser.

FOOD WARMERS: Single and double model for
heating and serving barbecue meats, chili, stew, baked
beans and other similar food products. All models
complete with automatic Dial-A-Heat control.

FUDGE WARMERS: Single, double and twin single
models for all types of hot fudge sauces, available with
China or stainless steel bowls. All models fully auto-
matic.

HOT FUDGE PUMP: Pumps hot fudge from either
Single MODEL 96 or Double MODEL 192 fudge
warmers, eliminates ladle, all stainless steel.

CHOCOLATE DISPENSER: Two gal. cap., stainless
steel bowl, agitator and faucet.

DISTRIBUTORS: Dealers only.

POBLOCKI & SONS, 2159 S. Kinnickinnic Ave.,
Milwaukee, Wis.

Portable snack bar.

SNACK KAR: Mobile concession cart with heating
and cooling compartments.

DOMESTIC DISTRIBUTION: All theatre supply deal-
ers, or direct.

PRONTO POPCORN SALES CORP., 702 Beacon
St., Boston 15, Mass.

Frankfurter steamer.

PRONTO "FRESH SERVE" FRANKFURTER
HEATER DISPENSER: Heats franks and rolls; espe-
cially designed for drive-ins; cap. 120 prepared franks
in roll. Stainless steel; contains complete steam unit
and hot air blower unit. Overall dimension 26x22 and
38 ins. high.

STAR MANUFACTURING CO., 6300 St. Louis
Ave., St. Louis, Mo.

Frankfurter steamer, sandwich grills, fryers.

STEAMRO, SENIOR MODEL #34: Hot dog steamer
and Model #39 bun warmer; stainless steel; sliding,
removable lids; capacity 150 hot dogs, 200 buns; over-
all size #38-16x16x18 ins.; overall size #39-24x16x18
ins.; designed for drive-ins and ball parks.

STEAMRO, JUNIOR MODEL #35: Electric com-
bination hot dog steamer and bun warmer; low cost,
compact counter unit for serving piping hot frank-
furters and buns; U. L. Approval; overall size
18x18x16 ins.

SANDWICH KING: Gas or electric combination
sandwich grill, steamer and warmer; low cost, com-
pact counter unit combining all the requirements for
quick, convenient light lunch service; overall size
34x19x17½ ins.

MODEL #5 FRYER: Counter model; twin or single
baskets; electric; low cost, compact frying unit for
quick convenient light fried food service in establish-
ments where space is limited; U. L. Approval; over-
all size 15½x20½x14¼ ins.

MODEL #3 FRYER: Counter model; twin or single
baskets; gas, low cost, compact frying unit for quick
convenient food service in establishments where space
is limited; overall size 18½x21¼x13¼ ins.

GRIDDLES: Gas and electric; 24 inch and 36 inch
lengths; cast iron grills; designed to handle speedily
and efficiently; entire surface usable; no waste space.

(ALSO SEE PAGE 45)

DISTRIBUTION: Authorized dealers.

STEEL PRODUCTS COMPANY, Cedar Rapids,
Iowa.

Coffee makers.

E-Z WAY, automatic coffee maker using liquid con-
centrates. Self-cleaning measuring and mixing faucet.

DISTRIBUTION: Direct.

(ALSO SEE PAGE 47)

TOASTMASTER PRODUCTS DIV., MCGRAW
ELECTRIC CO., Elgin, Ill.

Roll and food warmers, toasters, waffle
bakers.

BUN TOASTER (SLOT TYPE): Model 1D2-B, four-
slice, automatic. For toasting hamburger buns, etc., on
inner surface only. Toasts 250 half-buns, or 125

Motion Picture Herald, March 21, 1953

"We Get \$15 to \$22 More from Every 100 Pounds of Corn with Our New Manley Aristocrat..."

says Damp Myatt, manager of the Jet Drive-In Theater, Lancaster, California. "With our Manley Aristocrat, we've increased our popping volume and our sales volume. It's got the eye-appeal that really attracts customers. And from the service standpoint it's tops. I would recommend the Manley Aristocrat over any other machine I have ever seen or used."

Find out how you can increase your popping volume . . . increase sales in your drive-in . . . with a new Manley Aristocrat. Get all the facts. Mail coupon today!



MANLEY, INC.

1920 Wyandotte St.,
Kansas City 8, Mo.

Nobody Outpops Manley

THE BIGGEST NAME IN POPCORN

THROUGHOUT THE WORLD

MANLEY, INC.

Dept. MPH-353 1920 Wyandotte St., Kansas City 8, Mo.

- ☐ Send complete information on the new Manley Aristocrat.
- ☐ Please have a Manley representative call.

Name _____

Firm _____

Address _____

City _____ Zone _____ State _____

orders per hr.; 11½ ins. wide, 11 ins. deep, 8¼ ins. high; ship. wt. 25 lbs., single ctn. only. Also comes in 8-slice size.

BREAD TOASTER (SLOT TYPE): Model 1D2, four slices, automatic. Toasts 250 slices per hr.; 11½ ins. wide, 11 ins. deep, 8¼ ins. high; ship. wt. 25 lbs., single carton only. Also comes in 2-, 6-, 8-, 12- and 16-slice sizes, up to 1,000 slices of toast per hr.

ROLL AND FOOD WARMER: Model 2DS, 2-drawer, designed for hot sandwiches or other foods for rush service during drive-in intermissions. Allows food service operator to prepare hot food in advance, keep it hot and oven-fresh for hours and serve quickly. Holds up to 30 doz. "hot dogs"; 23x23x22½ ins.; drawer, 15½x16x4½ ins.; ship. wt. 190 lbs., crated single. Also comes in 3 and 4 drawer sizes.

WAFFLE BAKER: Model 2E2, double unit. Treated grids prevent waffle sticking, eliminate oil conditioning of grids. Automatic: 30 ins. wide, 14½ ins. deep (incl. cord), 7½ ins. high closed, 19 ins. high open; installed wt. 26 lbs.; ship. wt. 31 lbs.

DOMESTIC DISTRIBUTION: Through authorized "Toastermaster" distributors.

Ice Cream and Custard Machines

BERT'S ELECTRIC AUTOMATIC SNOW CONE MACHINE CO., Box 7803 Fair Park, Dallas, Tex.

AUTOMATIC SNOW CONE MACHINE: Grinds 12½ lbs. of ice, requiring 1½ minutes to shave. Machine compact, made of aluminum; wt. 130 lbs; overall ht. 54½ ins. with rod extended, 40½ ins. with rod down; 21 ins. wide, 18 ins. deep. Motor ½ h.p., 110 v., a.c. Counter space required 18 x 21 ins. Also available in 50 lb. cap. to supply park or fair.

THE FREEZ-KING CORP., 2518 W. Montrose Ave., Chicago 13, Ill.

Soft ice cream freezers.

MODEL 950: Two self-contained freezers. 7 gal. mix storage, 36 ins. wide, 24 ins. deep, 65 ins. high. Spigot or draw-off gate on all models.

MODELS 500, 600: Drive-in capacity output. Counter or floor models. 3½ gals. refrigerated mix.

MODELS 900, 900A, 900B: Self-contained freezers. Economy model. Size 24x18x68 inches. 3½ gals. refrigerated mix compartment.

MODEL 410: Size 32x26x66 ins. 3½ gals. refrigerated mix compartment.

MODEL 403: Counter model. Capacity depends on size of remounted compressor. 24x18x32 ins.

(ALSO SEE PAGE 39)

DISTRIBUTION: Authorized dealers.

ICECREAMOLATOR CORP., 3700 Oakwood Ave., Youngstown 9, Ohio.
Ice Cream Cabinets.

An ice cream cabinet with plastic display top. Seven cubic feet storage space. Unit is 28 inches square, counter 42 inches high, holds 480 pops (120 in low temperature display case and 30 doz. in reserve compartment).

DISTRIBUTION: Direct.

MILLS INDUSTRIES, INC., 4110 Fullerton Ave., Chicago 39, Ill.
Frozen custard and batch ice cream freezers.

GRAVITY FED: Supplies mix in amounts adjustable by means of a dial, up to a total of 30 gal. per minute; custard spigot and a 2-h.p. agitator drive motor for extra-low temperature operations available.

PUMP FED: As above, but with side cabinet pumped equipment providing a continuous supply of mix.

TWIN-HEAD: Two flavor operation. Up to 10 gal. per hr. Floor and counter models.

DOMESTIC DISTRIBUTION: Direct and distributors.

Popcorn Machines and Supplies

THE BEST FOODS, INC., 1 East 43rd St., New York 17, N. Y.

Popcorn oils.

NUCOLINE: Refined coconut oil; color added; packed in drums.

SUPER POP: Made from pure peanut oil; color added; packed in drums.

DISTRIBUTION: Direct and jobbers.

CRETORS CORPORATION, National Sales Offices, Popcorn Building, Nashville, Tenn. Plant, Chicago, Ill.

Popcorn Machines.

OLYMPIC OVER-THE-COUNTER MODEL: Baked enamel finish cabinet with stainless steel trim, 62" x 24" x 45" (to top of counter). Two 3-cubic-foot elevator wells with thermostatically controlled forced air heat. Automatic push-button seasoning pump. Choice of 16-18 oz. capacity electric kettle or 2-lb. capacity gas kettle.

HOLLYWOOD MODEL 48: Stainless steel cabinet, illuminated lucite top, metered seasoning pump, heated urn, filtered exhaust system, 18 oz. self-seasoning all-electric popping unit. Floor or counter model.

HOLLYWOOD JR. 55: Stainless steel cabinet, illuminated plastic top. All-electric 12 oz. popping unit. Floor or counter models.

GIANT MODEL 41: Gas fuel portable popping unit with 2 lb. per popping capacity. Enameled or stainless steel base. Available in Natural, Manufactured or Bottled Gas.

DOMESTIC DISTRIBUTION: Distributors in 65 major cities.

(ALSO SEE PAGE 33)

Cable Address: CREKORN, CHICAGO.



A Product of
ANDERSON & WAGNER, INC.
In Greater Los Angeles
Gardena, California

good taste . . .

in every way

• In BETTER STYLING TO ATTRACT YOUR CUSTOMERS

• In BETTER DRINKS TO BRING YOUR CUSTOMERS BACK

Everfrost

"America's Choice in Fountains
and Drink Dispensers"

There is an Everfrost Dealer Near You:

ATLANTA, GEORGIA
Wit-Kin Theatre Supply, Inc.
CHICAGO, ILLINOIS
Gardner Theatre Supply Co.
CINCINNATI, OHIO
Mid-West Theatre Supply Co.
DALLAS, TEXAS
Southwestern Theatre Equipment Co.
DENVER, COLORADO
Service Theatre Supply
DES MOINES, IOWA
Des Moines Theatre Supply Co.
GRAND RAPIDS, MICHIGAN
Ringold Theatre Supply Co.

HOUSTON, TEXAS
Southwestern Theatre Equipment Co.
INDIANAPOLIS, INDIANA
Mid-West Theatre Supply Co.
KANSAS CITY, MISSOURI
Hudson Theatre Supply
LOS ANGELES, CALIFORNIA
B. F. Shearer Company
MEMPHIS, TENNESSEE
Memphis Theatre Supply, Inc.
MINNEAPOLIS, MINNESOTA
Minneapolis Theatre Supply
OKLAHOMA CITY, OKLAHOMA
Oklahoma Theatre Supply

OMAHA, NEBRASKA
Western Theatre Supply Co.
PORTLAND, OREGON
B. F. Shearer Company
SALT LAKE CITY, UTAH
Service Theatre Supply
SAN FRANCISCO, CALIFORNIA
B. F. Shearer Company
SEATTLE, WASHINGTON
B. F. Shearer Company
ST. LOUIS, MISSOURI
St. Louis Theatre Supply
TORONTO, ONTARIO
Plant Maintenance Equipment Co.
VANCOUVER, B.C.
Plant Maintenance Equipment Co.

MANLEY, INC., 1920 Wyandotte, Kansas City 8, Missouri.

Popcorn Equipment and Supplies.

POPPING MACHINE, STANDARD MODEL: Completely enclosed; porcelain and nickel finish; large capacity.

POPPING MACHINE, DRIVE-IN MODEL: Capacity to 30 bushels of popped corn per hr. Heavy-duty unobstructed warming pan; warming oven; automatic seasoning well and pump; colored tubular illumination.

POPCORN SUPPLIES: Corn, seasoning, salt, bags and boxes.

(SEE ALSO PAGE 41)

NATIONAL THEATRE SUPPLY, 92 Gold St., New York, N. Y.

Popcorn machines, raw corn, seasoning, containers.

NATIONAL POPCORN FOUNTAIN SHOWMAN MODEL: Counter style popper, base of steel const., "quilted" stainless steel finish, glass popper case with glass deal plate 17½ in. above floor; pre-heat seasoning well, semi-automatic pump; raw corn bin, storage for bags, etc.; cash drawer; popping cap. 16 oz.

NATIONAL POPCORN FOUNTAIN PRODUCER MODEL: Counter style popper, base of steel const., white baked enamel finish, stainless steel work tray; glass-enclosed popping and warming compartment; pre-heat seasoning well, semi-automatic pump; two cash drawers, accessory drawers; 125 lb. raw corn storage; two cash drawers; popping cap. 3 lbs.; 54 ins. long, 30 in. wide; counter height 48 in.

RAW CORN AND SEASONING: "Movie Hour" corn packed in 10 lb. metal cans, four to a case; 12½ lb. polyethylene bags, four to a case; 50 lb. burlap bags; and 100 lb. burlap bags. "Movie Hour" solid seasoning, refined from coconut oil; packed 50 lb. pails, 400 lb. drums.

DOMESTIC DISTRIBUTION: National Theatre Supply branches (see dealer list on page 68).

EXPORT: Export Dept., home office.

C. F. SIMONIN'S SONS, INC., Philadelphia 34, Pennsylvania.

Refiners and packers of popcorn oils.

POPSIT PLUS: Artificially butter flavored and colored peanut oil; packed in gallon tins; especially for lobby popping.

SEAZO: Coconut Oil; artificially butter flavored and colored. Packed in 50 lb. pails and 400 lb. drums; for central popping.

DOMESTIC DISTRIBUTION: Dealers and warehouse stocks in principal cities.

Cable Address: SIMONIN, PHILADELPHIA.

PRONTO POP CORN SALES CORP., 702 Beacon Street, Boston 15, Mass.

Popcorn warmers.

COUNTER MODEL MLL: Rigidized stainless steel construction; underwriters' lab. approval; 20 lb. cap. Recirculating "Hot Blast" heating system. 26 ins. wide, 24 ins. deep, 38 ins. high.

PRONTO JUNIOR POPCORN DISPENSER: 10 lb. cap. Manual chute operation; "Hot Blast" heating system. 16x16x35 ins.

PRONTO "CONSOLE" WARMER: Available in walnut, mahogany or bleached oak; lined with stainless steel; insulated; cold cathode lighting. Cap. 30 lbs. popcorn; 3 ft. wide, 2 ft. deep, 54 ins. high.

STAR MANUFACTURING CO., 6300 St. Louis Ave., St. Louis, Mo.

Popcorn machines and warmers.

MODEL #46 FLOOR MODEL: Full size popcorn machine; bleached mahogany panels; decorated with red illuminated plastic panels; capacity 16 oz. of corn; U. L. Approval; overall size 27 x 39¼ x 72 ins. high.

STAR POPCORN MERCHANDISER: Model #52 Warmer and Model #53 Popcorn Machine combination; grey enamel; decorated with red illuminated plastic panels; capacity 16 oz. of corn; U. L. Approval; overall size 68 x 64 ins. high.

DOMESTIC DISTRIBUTION: Authorized dealers.

BETTER THEATRES Section, Guide Number of 1953

Nestlé's

ALL STAR CAST

Two New Attractions—
Three All-time Favorites!



Famous Nestlé's Crunch,
Milk and Almond Bars.
Available in both 5¢ and
10¢ sizes, packed 100
count and 24 count.



See your Nestlé representative or write for more details

THE NESTLÉ COMPANY, INC., 2 WILLIAM STREET, WHITE PLAINS, N. Y.



A CHAMPION AGAIN!

(Theatre Sales Champion Award)
(Better Theatres Refreshment Survey)

Over 80 years a favorite . . . the preferred beverage of millions because of its top quality real root juice flavor . . . is again proved by uncontested survey to be a National Leader.



THE CHARLES E. HIRES CO. 296 SO. 24th STREET PHILADELPHIA, PA.

Schemes for Drive-in Theatre Refreshment Service

Q Tested arrangements for counter, cafeteria and station methods

WHAT IS the type of refreshment service likely to produce the most sales? Should it be a conventional counter-and-attendant service, or a cafeteria service, or a "station" system? Following is a summary of the experiments and conclusions of a number of drive-in operators:

An area in which the cafeteria method appears to have established itself firmly is New England; however, that system and the station plan have been adopted by many drive-ins elsewhere. For example, Joseph Blumenfeld, head of the Blumenfeld circuit, long prominent operators of theatres in northern California, reported in 1952 dissatisfaction with the conventional counter method which his drive-ins had used for many years.

U-SHAPE COUNTER

When the Blumenfeld circuit first got into the drive-in field, it installed small "commissaries" which offered soft drinks, coffee, frankfurters and candy. Later this was expanded to include popcorn, ice cream and hot malted milks. The stands were

straight counters of various lengths. Most patrons tended to congregate at intermissions and couldn't be served properly.

The circuit adopted then a U-shaped counter, also larger buildings, increasing the dimensions from around 20x30 feet to 50x70 feet.

"This tripled our business," said Mr. Blumenfeld, "and also our profits. We find larger buildings attract customers; moreover, if customers are kept waiting outside, they become discouraged and leave without purchasing anything.

"When we first started our drive-ins, we serviced patrons with 'butchers' who had fully equipped carts with charcoal burners so that the food was kept hot. Cold drinks were iced. We have continued this practice, now serving also hot coffee from the carts.

"Many drive-ins throughout the territory have discontinued using carts, but we still find them successful in that they bring service to older people and to those unable to wait in line at the stand during peak periods. Nevertheless, our method of operation has produced sales at the stand in ex-

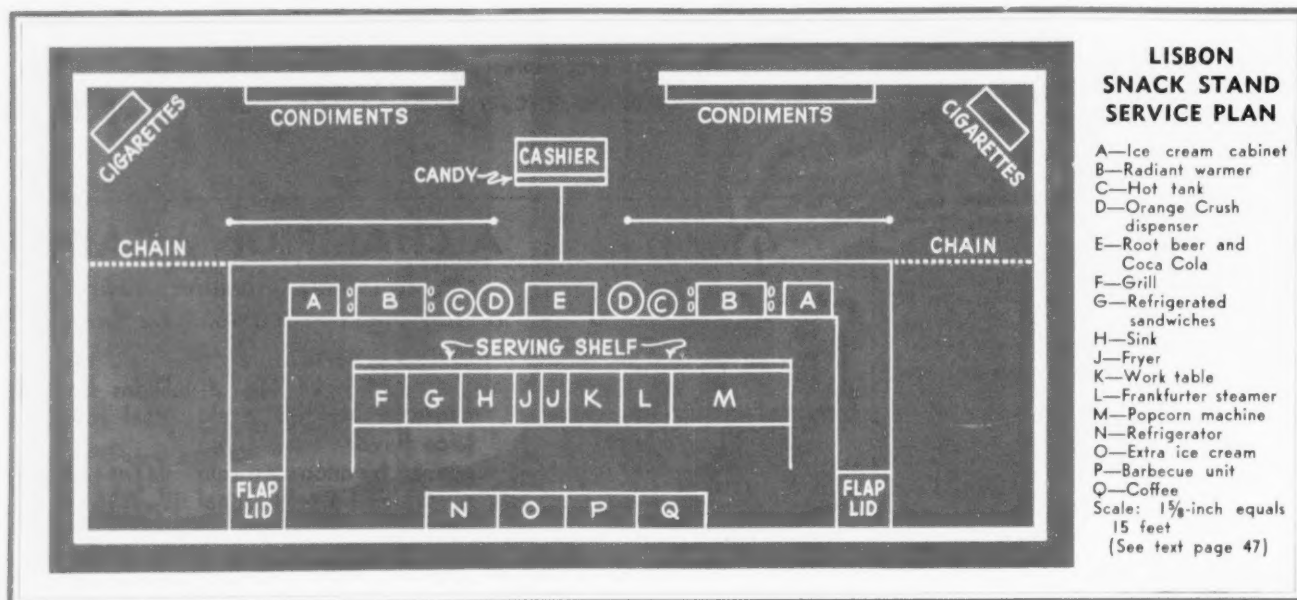
cess of 40% of the gross income at the box-office, which is unusually good.

"Compared with the cafeteria type of operation as we have observed it, we find that we service as many people and our percentage is good. There may be less confusion in cafeteria service and perhaps a saving in help. However, there is some objection to the cafeteria type of operation in that there is some loss through pilferage and some from foods getting cold.

"There does not seem to be a great difference between counter and cafeteria service other than that with self-service the customer passes in a straight line behind the rail and pays the cashier at the end of the line, whereas under our system there are no rails and customers crowd in as best they can and pay for the merchandise as they receive it.

"As to better control of money under the cafeteria method, which gives attendants little if any chance to pocket money, we have had only a negligible amount of such petty thievery."

Straight counters have been replaced at all drive-ins of Blumenfeld Theatres, with





Over 8 different ways to
"PUT ON THE DOG"
 with *Star* hot dog equipment

Steam 'Em	Dogs and Chile
Broil 'Em	Dogs and Sauerkraut
Grill 'Em	Dogs and Baked Beans
French Fry 'Em	Dogs and Bar-B-Q Sauce

Only Star makes every kind of equipment for preparing every kind of hot dog!



STEAMRO, JR. Electric combination Hot Dog Steamer and Bun Warmer will steam 150 dogs and warm 40 buns.



STAR HOT DOG COUNTER With the Bun Warmer, Griddle, Heated Relish Server and Stainless Steel Counter and Serving Top.



STAR GRIDDLES. Gas or electric griddles are available in two sizes, 24 inch, and the 36 inch. High productive capacity.



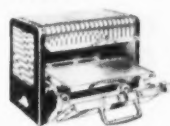
Feature HOT DOGS, prepare them with *Star* equipment and watch your profits increase!



STEAMRO, SR. Electric combination Hot Dog Steamer and Bun Warmer will steam 400 dogs and warm 300 buns.



STAR SANDWICH KING Gas or electric unit combines two large griddles, steamer, with a 100 dog capacity, and a roomy warming compartment.



STAR BROIL O GRILL High speed gas broiler and grill gives that charcoal broiled effect.



STAR COUNTER FRYER The Model No. 5 Fryer, a low cost compact unit, French fries quickly and conveniently for that DIFFERENT tasting hot dog.

STAR MANUFACTURING COMPANY

6308 ST. LOUIS AVE. • ST. LOUIS 20, MISSOURI

Division of Hercules Steel Products Corporation Canadian Distributor Crown Electric Company, Brantford, Ontario, Canada

U-shaped counters providing a station type of service. The standard installation is pictured on page 47.

The display case, for candy and similar goods, is only 6 feet wide. The case is

illuminated, and the back of it is so slanted that an attendant can reach in without stooping, which saves time.

The case and counter are attractively finished in Formica with a grey front and

yellow top. No merchandise is exposed to public touch, but all is plainly displayed. In front of each drink dispenser is an illuminated shadow box for displays.

(Continued on next page)

Three-Station System of the Garden Auto-Torium Drive-In, Ledgewood, N.J.

FIGURE 1: Service Area—

- A—Passageway with drop counter so devised that attendant can easily leave counter to fill condiment containers, or for other purposes.
- B—Doorway from stock room to back of refreshment counter.
- C—Display of popcorn, candy, potato chips and pretzels.
- D—Reserve supply of display products. (C)
- E—Display of drink syrups.
- F—Dripolator for coffee (capacity 48 cups)
- G—Ice cream cabinet.
- H—Relish, mustard, sugar, coffee, spoons, and salt on shelves underneath urn table.
- I—Coffee urns (capacity 6 gallons) on stainless steel table.
- J—Combination barrel for dispensing root beer and Coca-Cola. (Beneath this shelf supporting barrel is auxiliary freezer box for ice cream and frozen "Milk-Shakes-on-a-Stick.")
- K—Bun warmer holding 48 rolls.
- L—Frankfurter grill (capacity 40) on stainless steel table, underneath which are shelves for reserve frankfurters and buns.
- M—Four-in-one drink dispensing unit sitting on counter. Ice cabinet located beneath cools all carbonated water for four drinks.
- N—The counter, which is clear except for drink dispensers.
- O—Barbecue heaters.
- P—Cream Dispenser.
- Q—Pizza Pie Shelf.

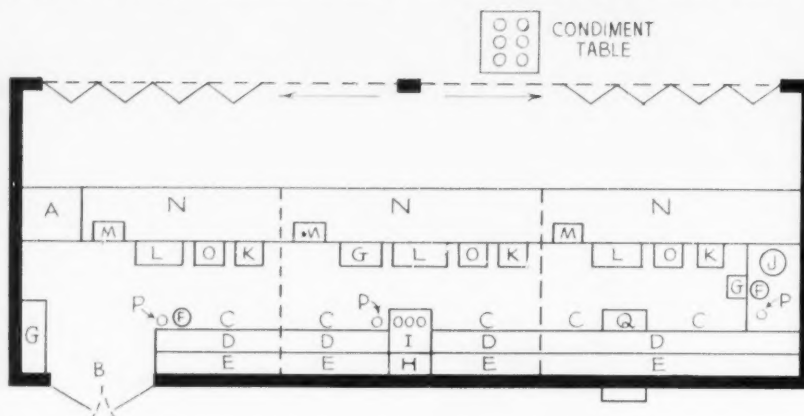


FIGURE 1: Service area and equipment (see adjoining identifications).

FIGURE 2: Stock and Work Room—

- A—Refrigerator for storage of dairy products and frankfurters.
- B—Auxiliary freeze box for storage of rolls, franks, candies or other perishables.
- C1—Storage of coffee and hot chocolate.
- C2—Storage of coats, aprons, towels.
- C3—Storage of salt, sugar, and other miscellaneous small items.
- D—Storage of soft drink syrups.
- E1—Storage of packaged popcorn.
- E2 and E3—Storage of packaged potato chips.
- F1—Storage of cartons of pizza sauces.
- F2—Storage of paper napkins and wooden spoons.
- G—Work table to make pizza pies.

- H—Frigidaire for pie crusts, sauces, cheese.
- I—Pizza pie oven.
- J—Gas tanks for carbonated water.
- K—Stainless steel top table to keep pies hot.
- L—Motor compressor for carbonated water under table (K).
- M—Sliding panel in partition to serve pies to man out front.
- N—Long work table for general use.
- O—Storage of paper supplies.
- P1—Utility work table for preparing pizza sauces for the next night. Auxiliary gas burner is placed on this table.

- P2 and P3—Storage for paper cups, spoons.
- Q—Switchboard for lights.
- R—Sink with drainboard (hot and cold running water).
- S—Grease trap.
- T—Hot water heater (20 gallons).
- U—Two 3-foot doors (passage from stockroom to back of refreshment counter).
- V—Large reserve ice cream cabinet.
- W—Reserve ice box with chipped ice; can transfer to front if needed.
- X—Employees' uniform locker and linen supply.
- Y—Exit doors (two, each 3 feet wide).

FIGURE 2: Stock and work room (see adjoining identifications).

Every item we have for sale is located within the 10 feet of space allotted to each attendant. Actually he doesn't have to walk more than 3 feet in any direction to get the merchandise.

On rainy or otherwise slow evenings, the center station will often be sufficient in itself and the other two can be closed. As business picks up, one or both of the others can be opened.

A four-in-one drink dispenser is installed at each station. This unit has two nozzles, each of which can be turned both left and right.

Soft drink syrups are kept on an open shelf in the back bar. At the end of each night's operation, supplies on the shelf are replenished.

We have adopted a "packaged goods" operation. Our popcorn and potato chips come in a 2-ounce transparent bag. These two items are displayed on counter racks along the top side of the back counter, with candy and pretzels.

Pretzels, which also are displayed in transparent cartons, have become a major item. Another best-seller is barbecued beef. We started off with barbecued pork, which didn't move. We then took on the beef, which increased ten-to-one in sales over pork.

After the night's operations are completed, all needed items are moved up, first from the reserve shelves, and then from the stock room.

Supplies are located in the stock room to eliminate as much leg work as possible. Right next to the door to the counter is the ice cream dispenser, and adjacent to it is the box with chipped ice to replenish units out front.

If a counter attendant runs out of a certain size of cup used for serving hot or cold drinks, he does not need to go into the work room. The man attending the pizza pie oven can pass them through the open partition.

An auxiliary oven is used to keep ten pies in reserve. Baking is started 15 minutes before intermission, and a supply is ready immediately on the steel table. —WILFRED P. SMITH, owner, Garden Auto-Torium.



Typical refreshment service adopted in 1952 for drive-ins of Blumenfeld Theatres, San Francisco. The center island counter is constructed of sheet metal and stainless steel. It is equipped with a frankfurter cooker with a capacity of steam-cooking 200 hot dogs at a time. The first portion of the counter is the cooker itself; the center is a table for making up hot dog sandwiches; the third section holds twin coffee urns, which can be operated from either side. At one side are popcorn warmers. Next in line is a Sunbeam electric bun warmer, a four-drawer model (hot dogs can be placed in buns and wrapped in wax paper to await sale). The next two units are drink dispensers. Immediately next to the bun warmers is the cash drawer, built into the counter where patron can neither see nor reach it. It does not have to be pulled out. Paper cups are issued by elevator type dispensers—the cups are upsidedown so that the attendant only handles the bottom of the cup. To the extreme right and left of the popcorn warmers are dual ice cream cabinets, and in back is storage area for additional stock.

(Continued from preceding page)

Immediately behind the stand is a storage room with a large refrigerator, an ice cream cabinet, shelves for supplies, and food and washing equipment. Everything is duplicated at the serving stations.

THREE-STATION PLAN

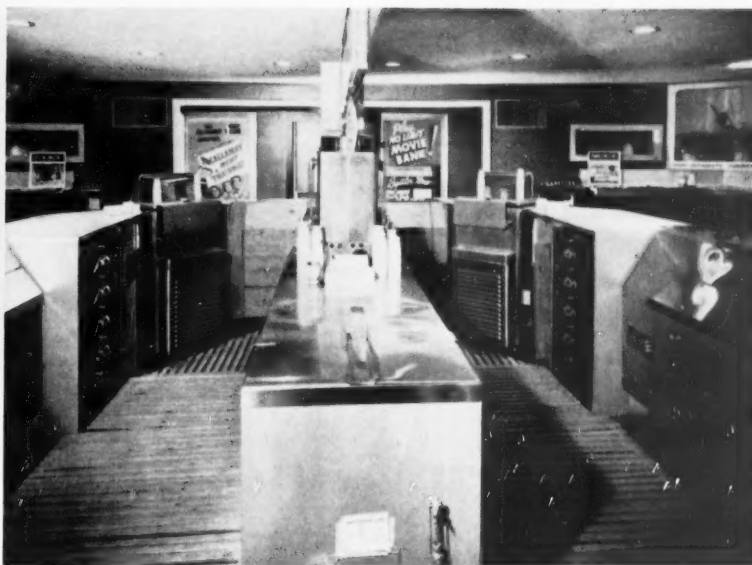
At the Garden Auto-Torium drive-in, Ledgewood, N. J., Wilfred P. Smith, the owner and formerly a drive-in circuit general manager, changed from a *general counter* system to a *station* system after much observation and experimentation.

His chief objection to the cafeteria method is a bottle-neck that can occur. His criticism:

"The cashier doesn't have adequate time to concentrate on tabulating one patron's items while listening to the complaints of the impatient customers standing behind. Also a patron who buys hot food is likely to find it cold by the time he returns to his automobile after waiting to pay the bill.

"As for the 'come and get it' style, which I formerly employed, it tends to enforce too much moving about on the part of the attendant, who also can't help getting in the way of his colleagues. Then, too, more aggressive patrons push ahead of the 'timid soul.' Result: More customers that are dissatisfied.

"By far the most effective system seems to me to be the station plan. Conditions naturally will vary from situation to situation."



The original straight counter of the Garden Auto-Torium has been divided into three stations, each a complete serving unit. The new scheme is diagrammed and explained on opposite page.

One of the first operators of drive-ins in southern

California, and today one of the largest, uses what it describes as a *modified cafeteria* system. Actually, service is by attendants, and it most closely resembles a unit-station system, with each attendant making his own sales at his own station. However, when an intermission rush is on, attendants do not make their own change, but take the money to a central cashier.

With this method, now employed for a number of years, merchandise is kept on the backbar and also under glass. At peak periods, it is testified, about a thousand patrons can be handled in 15 minutes.

DUAL COUNTER-CAFETERIA

Philip L. Lowe of the Theatre Candy Company of Boston, long a firm proponent of the self-service arrangement, introduced in 1952 a dual scheme to realize the advantages of *both* the counter and the cafeteria method. This plan was installed at the Lisbon drive-in at Lewiston, Me. (see diagram on page 44).

Basically, the system provides two front counters for cafeteria service, and as many for attendant service, with each type devoted to merchandise adapted to it.

In each of two self-service lanes, which are separated by a partition, patrons are offered ice cream from a freezing cabinet, and such foods as frankfurters, French fries and onion rings, and also popcorn. All of these items are prepared in advance and placed in warmers for patrons to help them-

selves. For self-service drinks there are dispensers for Orange Crush, Coca Cola and root beer.

At the attendant-handled counters are foods prepared to order. These include hamburgers, cheeseburgers, milk shakes and sundaes, etc.

There are thus four lanes for service at the Lisbon drive-in, with the stand so designed that the counter service provisions can be converted to self-service should that prove desirable.

Storage and food preparation equipment are located on two separate counters behind the main service counter. On the center counter (see diagram) are a Star grill, a refrigerated sandwich unit, a sink, two fryers, a work table, a steamer for frankfurters, and a Manley Console model popcorn machine.

On the back bar were installed a refrigerator, an extra ice cream chest, a Helmeo barbecue unit, hot chocolate and coffee urns.

Two-color wood panels are used in the refreshment building to cover the ceiling and walls and counter fronts.

**Take the E-Z WAY to
Increase Coffee Profits!**



**E-Z WAY
COFFEE
MAKER**

- No Waste Coffee
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Each Cup is a FRESH Cup of Coffee!

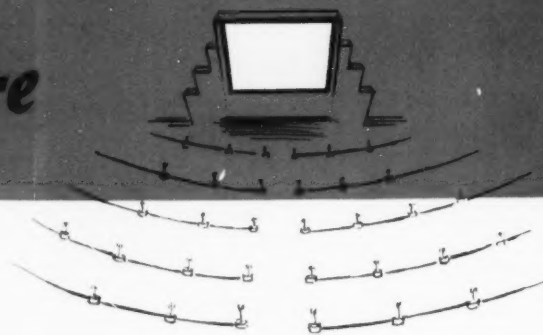
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STEEL PRODUCTS CO.

Dept. BT-355

Cedar Rapids, Iowa

The Drive-in Theatre



Ramp System Dimensions and Grades

IN THE RAMP scheme of a drive-in we have a kind of stadium which corresponds in ultimate function to the seating plan and floor slope of an indoor motion picture auditorium. The drive-in designer is also dealing with sightlines—that is, clear vision for each spectator of substantially all of the picture. At the same time he is dealing with vision from inside an automobile, which he must consider to be a permanently enclosed model requiring that the performance be viewed within the frame of a windshield.

It is only from the first three or four ramps that persons in the rear seat cannot be allowed a full view of the picture (from a quarter to a third of it is cut off by the car top) without introducing distances from the picture, or reducing capacity, or increasing forward ramp pitches, to an impracticable degree.

With cars ranged in circular tiers in front of the screen, it is obvious that each tier must be at such elevation relative to the tier in front that occupants of any car in it can see over the car (or cars) in front. The size of the picture, and how high it is

above grade (base level of the ground throughout the area of the theatre proper) are factors in determining what these elevations should be.

SIGHTLINE LIKE A LEVER

Consider a sightline as a lever, with the bottom of the picture at one end, the spectator's eyes at the other, and the top of the car in front of the spectators as the fulcrum. In order to maintain clear vision, if you lower one end you must raise the other (Figure 1).

Applying this "lever system" to the problem of sightlines, one can adapt a scheme of ramp elevations to the natural topography of the land so as to move as little earth as possible. If the land naturally slopes downward toward the location selected for the screen, the ramp system can slope in that direction. If the slope toward the screen is upward, ramp gradients can conform to that natural contour. And quite as in the dual-incline floor slope of an indoor auditorium, drive-in ramp pitches can be bowled (lowest point somewhere

near the middle) if flat ground or other topographical conditions so advise.

RAMP DRAINAGE

Grading of the ramp area (and adjoining drives) must also provide for run-off of rain water into the theatre's drainage system, by sloping the surface to one side or the other, according to the location of the drainage ditch or sewer. Flow can extend entirely across the ramps from one side to the other, or to both sides from the middle.

This lateral sloping must carry far enough, and have a pitch great enough, to assure steady flow of rain water out of the area occupied by ramps and drives. A rate of pitch of about 6 inches to 100 feet should be sufficient in regions of normal rainfall.

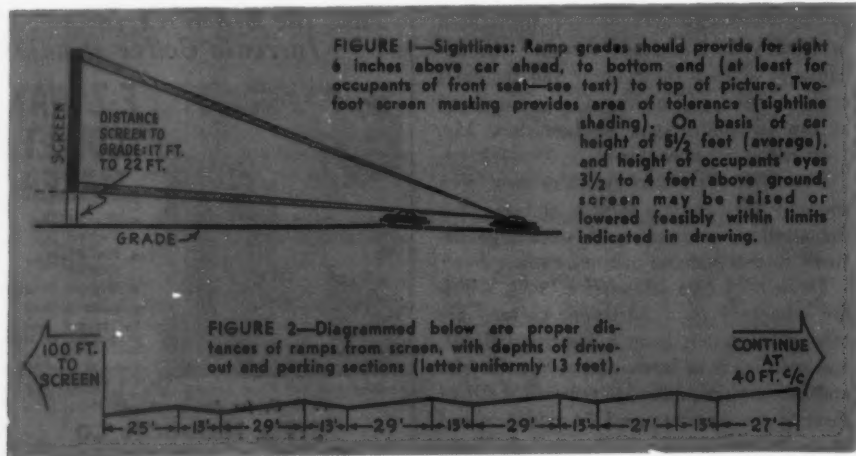
It is of course important that rain drained out of the ramp area be carried completely out of the drive-in tract with such efficiency that no pools of water are formed in which mosquitoes can breed and which, becoming stagnant, might produce disagreeable odors.

Sloping each ramp along its lowest level from the middle toward each side has two advantages over the side-to-side system—it reduces the lateral pitch to a minimum, and it minimizes erosion.

RADIAL PLAN

The ramps form arcs of uniform distance apart with the first one on a radius of 125 feet from a point at the middle of the screen tower. This distance of the first ramp—its crest—from the screen is adjustable to conditions; however, its approximation is recommended because it has been found a practicable compromise of traffic and projection (including visual) factors.

Recommendations for axial ramp dimensions are given in Figure 2. This is for a "single-ramp" system (one tier of cars per ramp), which is the conventional type. A "double-ramp" system, providing for two rows of cars to the ramp, is indicated only when it is economically urgent to achieve greatest possible capacity within available



plot space (double ramps introduce traffic difficulties and hazards which had better be avoided.

It will be noted in *Figure 2* that the second, third and fourth ramp driveways are 2 feet deeper than those behind; the reason is that cars should enter the ramp feeder drives from a point toward the rear of the ramp area, and the turning radius for entering the forward ramps is quite relatively short.

A distance of 42 feet is recommended for the first three ramps, and of 40 feet for the others, with 13 feet a uniform depth for the parking incline. *These distances are measured as horizontal*, not parallel to the ramp slopes.

This whole system of ramps, regardless of the total capacity of the drive-in, should form a segment whose sides are along lines extending from the sides of the screen at an angle not greater than 40°. To lengthen arcs much beyond those extremes is to invite complaints because of distortion of the picture. Capacity thus is properly expandable only by increasing the number of ramps.

CAPACITY PER RAMP

It is possible to project a picture in the neighborhood of 55 feet wide with acceptable definition of image. With this size, an eleventh, even a twelfth ramp, would be within practicable viewing range of the screen, making such numbers "standard" for a drive-in of average capacity—500 to 600 cars. With a main building (projection, refreshment stand, toilets) located between the fifth and ninth ramps, capacity per ramp is as follows:

First, 24; second, 28; third, 34; fourth, 40; fifth, 48; (next three allow for building) sixth, 40; seventh, 44; eighth, 48; ninth, 66; tenth, 70; eleventh, 78; twelfth, 82—giving a total car capacity altogether of 604.

RAMP PITCHES

It is well to appreciate the *lever principle* in applying the system of ramp pitches (grade of each ramp relative to those immediately in front and to the rear) given in this article. It explains how it is that one can adapt a scheme of ramp elevations to the natural topography of the land so as to move as little earth as possible.

In other words, with the relationships between picture, viewer and the car in front maintained throughout the ramp grading, the ramp area as a whole can have an overall slope *upward* from the screen end, or it can have a slope altogether *downward*; or the ramp area can be graded into a bowl shape if the ground naturally tends to slope downward at the screen end, then rises farther on. Regardless of the type of

One source

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ramp pitch system, the lever principle applies to each viewing position.

Drive-in sightlines presented in this article are based on a measurement of 5½ feet for the overall height above ground of the average modern enclosed passenger automobile, with the average level of occupants' eyes between 3½ and 4 feet above ground. The sightlines from occupants of the front seat should clear the car in front by a minimum of 6 inches. This must be adhered to closely.

ELEVATIONS

Elevations for the rows behind the main building are based, in the system of pitches here presented, on a building not more than 10½ feet high in front, and 9½ feet in the rear.

A refreshment stand, and toilet rooms, located immediately ahead of the ninth ramp is therefore just about in the "population center," while being at the same time at no extreme distance from the most forward ramps.

A building large enough to house the projection equipment and the two main service facilities requires an area about 100 feet wide—that is, provision for it cuts out about that much space from the ramp area.

The first step in determining ramp grades is to set the level of the *crest* of the first ramp. Let us refer again to the idea of a sightline as a lever, remembering that if you lower the spectator's eyes, you must raise the screen, and vice versa, in order to work out a practical scheme by which the view from each car is not obstructed by a car in front. It is of course the bottom of the picture which the car in front would obstruct if that car were placed too high. The bottom of the picture therefore bears a critical relationship to the grade of the first ramp.

RELATIVE GRADES

In the system of grades given below, the *crest of the first ramp is calculated at a level 20 feet below the level of the bottom of the picture.* (There is a practical area of adjustment in this picture height: it can be lowered or raised a couple of feet as masking provisions and sightline tests from each ramp later advise. However, it is necessary to place the crest of the first ramp—we prescribe the first ramp here for purposes of simplification—in a specific relationship to the bottom of the picture, and the 20-foot level is a workable average.)

With the crest of the first ramp at a level approximately 20 feet above the level at which the bottom of the *picture* is going to be, the following schedule of grades for high and low points of the ramp system will provide practicable sightlines:

RAMP 1—Drop from C to D: 1 foot, 9 inches; rise from D to C drive-out lane for cars of second ramp): 11½ inches.

RAMP 2—Drop from C to D: 1 foot, 9 inches; rise from D to C: 1 foot, 6 inches.

RAMP 3—Drop C to D: 1 foot, 9 inches; rise D to C: 1 foot, 4 inches.

RAMP 4—Drop C to D: 1 foot, 6 inches; rise D to C: 1 foot, 6 inches.

RAMP 5—Drop C to D: 1 foot, 3 inches; rise D to C: 1 foot, 8 inches.

RAMP 6—Drop C to D: 1 foot, 3 inches; rise D to C: 1 foot, 3 inches.

RAMP 7 (calculated on basis of location of projection building here)—Drop C to D: 1 foot; rise D to C: 2 feet, 6 inches.

RAMP 8—Drop C to D: 1 foot; rise D to C: 9½ inches.

RAMP 9—Drop C to D: 9 inches; rise D to C: 3 inches.

RAMP 10—Drop C to D: 6 inches; rise D to C: 1 foot.

RAMP 11—Drop C to D: 6 inches; rise D to C: 1 foot.

RAMP 12—Drop C to D: 4 inches.

The basic factor of the relationship between the level of the crest of the first ramp, and the height of the picture above the ground at the location of the screen tower, is subject to such reciprocal adjustment as to make for the best conditions; namely, a system of ramp grades requiring the least earth-moving, and an overall screen tower height (including supporting structure beneath the actual masking and picture area) no greater than proves to be necessary.

The height of the picture above the ground at the screen tower location may be practically gauged on the basis of a distance of between 17 and 22 feet from the ground to the screen, plus 2 feet for the bottom masking (unless picture is "spilled" over edges of screen).

STAKING OUT GRADES

Assuming that the grading contractor has had no previous experience with drive-in theatres, and is not for this or other reasons equipped to lay out a system of grades in accordance with the pitch schedule presented above, it is suggested that a civil engineer or surveyor obtainable more or less locally be sought out for the purpose of preparing a ramp elevation "grid" to specifications.

By using the regular surveying methods, elevations not less than 50 feet apart in each direction (gridiron) are determined, with values given each according to local practice (it is often footage that is above sea level).

At each of these points 50 feet or less apart, the level to which the ground should be graded is indicated. A good method is to drive a stake into the ground with the proper level indicated thereon.

To the eye, the ups and downs of the ramps will appear altogether gentle. There should be no sharp turn either downward or upward, but rather an easy curve.

—Wilfred P. Smith.

Landscaping Costs and Stock

ESTIMATES of the original cost of landscaping range from \$100 to \$20,000, or even more; however, one circuit with many drive-ins landscaped a number of them at a cost of only \$600 each.

The time, effort and money that must be expended in landscaping do not end, of course, once the grass and shrubbery are planted. Grounds have to be maintained.

Many operators handle grounds maintenance by contracting the work out to persons, or companies, in that business, who supply all of the equipment, fertilizer and chemicals, as well as the labor. These operators, some of whom have turned to the contract method after trying to handle the work themselves, appear to be in the minority, however. (They also seem to be located mostly near large cities, or in metropolitan suburban areas, where extensive landscaping of homes, parks and even industrial plants has made such service readily available.)

Some theatres employ one or two full-time gardeners, who do nothing but attend to the grounds. At other theatres the duties of a general caretaker include maintaining the grounds. This is true of one drive-in where the yearly grounds maintenance cost, except for labor, is \$150.

Plant costs at this drive-in (California) amounted to \$1,000, which included 300 dwarf cypress trees, 50 Japanese cypress, myrtle, bougainvillea, palms and oleanders. Cost of the lawn area originally was \$250, including planting, seed (blue grass and clover), and soil preparation.

Maintenance costs include equipment servicing and replacement; however, equipment may actually save expense by reducing labor. For example, at one drive-in, a high-pressure power sprayer costing \$300 and usable also to extinguish fires and to spray paint, is employed to spray weeds twice a month, which represents about four hours of labor. When this was done by hand, it took a full day. The lawn is mowed once a week, this work requiring three hours. Equipment commonly includes a lawn edger, a wheelbarrow, shovels and rakes.

At practically all drive-ins, fertilizer and insecticides constitute a large part of landscaping expense. One drive-in manager estimates that these items alone cost about \$250 annually; with labor budgeted at \$25 per week, this brings his maintenance costs to around \$1,500 per year. Every third year this is increased by the need for additional top soil and seeding. Aside from various hand tools, this manager has found

it necessary to purchase a power motor, a tree saw, three hedge clippers, and one vacuum type insect sprayer.

Both equipment and supplies are usually purchased locally by drive-in operators. This (as one of them puts it) "builds goodwill in the community."

TREES AND SHRUBS

In general, landscape gardening may be said to be of two distinct styles, *formal* and *informal*. Many times it is well to combine the two, taking advantage of existing natural beauty.

The *formal* part is developed with specimen trees, lawns, shrubs and flowers arranged in regular design.

Informal landscaping has no fixed pattern. It avoids straight lines, sharp angles and curves in a rigid design.

In selecting trees it is well to become informed with those of rapid growth. Poplars, birches and willows grow very fast and are attractive. The best time to plant the willow is immediately after the frost is out of the ground. If willows are planted too late in the spring, they may require watering every day, unless rainfall is heavy. Once it is established, maintenance on a willow tree is negligible.

For intermediate planting with deciduous trees, it is well to install also a few evergreen trees, such as Douglas fir, arbor vitae, spruce and hemlock. The evergreens set off the other trees, or large shrubs, enhancing their beauty.

Flowering shrubs (deciduous types rather than "broadleaf" evergreens) generally are hardy. With the exception of cutting back the tops periodically because of their rapid growth, flowering shrubs need little or no attention, and most are inexpensive.

FLOWER BEDS

A floral garden is best suited to the most conspicuous parts of a drive-in, such as near the attraction sign, in front of the main building, and about the box-office. Select those which have gay and eye-filling blossoms. Make every effort to get as much color in the display as possible. Gladioli about the attraction sign, petunias about the box-office, and a bed of chrysanthemums in front of the projection booth is a good base from which to start.

To avoid unnecessarily high costs, and to realize color at all times of the growing season, flowers common in the area should

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be chosen. Advice can be procured from a local nurseryman, or a garden club. There are numerous local garden clubs, plus state and national organizations.

A most popular type of flower bed, and one easy to install, is the "old fashioned garden." Nothing is planted in a formal manner. Some of the varieties suited to such a garden are hollyhocks, larkspurs, snapdragons, sweet Williams, Canterbury bells, sweet peas, pansies, candytuft, etc.

For *water gardens* there are not a great many suitable plants. Effective ones and

those that can endure freezing are the water lilies.

In many areas there are awards made by garden clubs of the state to establishments making the appearance of their property more attractive through the use of flowers, trees and shrubs.

LAWNS

Usually a drive-in can use *some* lawn to advantage. But lawn cost is relatively high, so unless it is intended to have a full-time

gardener who is qualified in the knowledge of seeding and in administering chemicals to cure diseases and eradicate weeds that are ever attacking a lawn, one should move with great caution before deciding how much lawn to put in.

There are various kinds of grass to use under a variety of conditions. In the Southern states, Bermuda and St. Augustine are recommended. In the North, bluegrass is a good selection for fertile soil (preferably limy). Fescues are also good selections, usually mixed with blue-grass.

Projection Factors in Location of Main Building

AVAILABILITY of high-speed lenses ($f/2.0$, or even $f/1.9$) in focal lengths up to 7 inches allows the projection ports to be moved considerably back if there are conditions that make that desirable. With 7-inch lenses, the projection throw can be as much as 500 feet for a 56-foot picture; and if one wanted to project a picture as large as 60 feet wide (perhaps spilling the beam off the screen instead of using masking), the ports could be moved back to approximately 540 feet, placing them a little behind the front of the twelfth ramp, the last one of a 600-car drive-in.

It is possible to maintain a picture as large as 60 feet wide with the projection room moved back a distance of 440 feet from the screen, while a 7-inch lens would permit locating it a 100 feet farther back.

And this may be done without decreasing the light on the screen. In fact, the screen light will actually be improved (Figure 1).

While it is not necessary to associate the booth structurally with the refreshment-restroom installation, that is usually the most economical way of providing for it; and with a 60-foot picture the building could be designed for placement so as to interrupt only two ramps instead of three—even, for that matter, only one.

It is not advisable to place the refreshment stand and restrooms so far from the center of the audience as to seem remote. Rather than do this, it would be better, if a 60-foot picture were wanted, to bring the main building into the last ramps and place the projection booth on the roof. This might supply another reason for moving the main building farther back than the seventh ramp—the roof could be "terraced" for seating.

Those are possibilities that will appeal much or little according to the individual situation. A picture size of around 56 feet, however, is normal for a 600-car capacity with the screen masked, and this gives a range of 370 to 490 feet from the screen for location of the projection ports—that is, at the seventh, eighth, ninth or tenth ramps (see Figure 2).

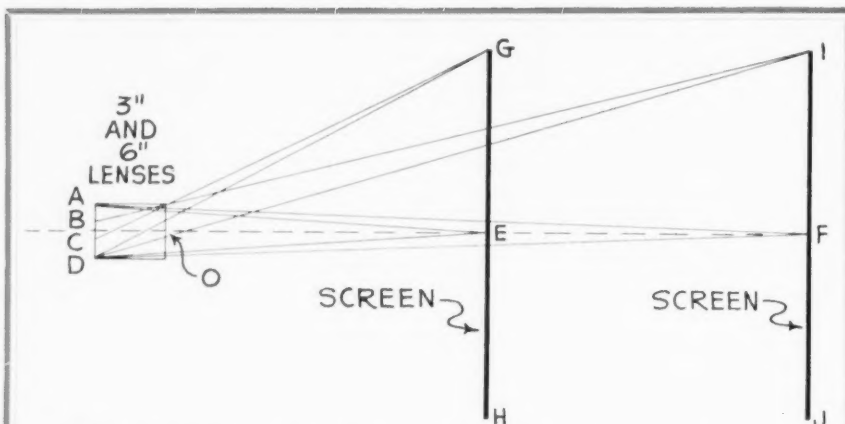


FIGURE 1—Illustrating the greater light transmission of a lens of long focal length with a diameter of 4 inches (as discussed in text at left) in contrast to that of the short focal length lens of smaller diameter. The screen images (GH and IJ) are the same size, with one considered to be 220 feet from the projection lens, the other 440 feet. At the centers of the picture (E and F) the light is the same for both distances. However, from the outer area of the nearer picture (G) only the lens area CD can be seen, hence only this portion delivers light to this outer region of the image. On the other hand, from point I of the farther picture, a larger lens area (BD) can be seen, indicating how it is that more light is delivered to point I by a lens of long focal length than to point G by one of shorter focal length. A 3-inch lens shows an efficiency factor of 56%, contrasted with 86% for a 6-inch lens.

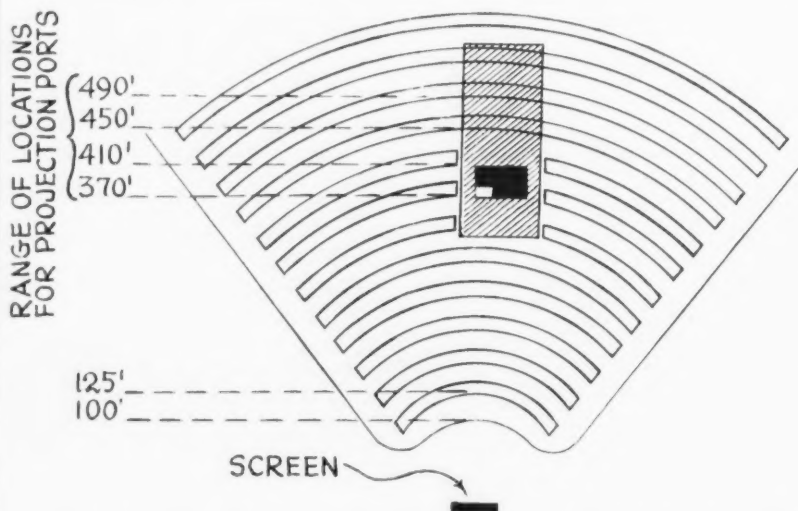


FIGURE 2—Distances that projection ports may be from the screen of a medium-sized drive-in with a 56-foot picture, for most efficient screen lighting with 4-inch lenses (see diagram above). Shaded area denotes main building with projection booth on ground floor.

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Catalog Data..

on lines of equipment, materials and supplies,
including their distribution, presented alphabetically according to product

* For identification of dealers by number and symbol see page 68. Similar data on vending products are given in Theatre Sales section.

Air Supply & Conditioning

AIR DEVICES, INC., 17 East 42nd St., New York 17, N. Y.

Air filters, diffusers, exhausters.

DIFFUSERS, Square or rectangular: Available in three basic types and a variety of vane arrangements, patterns and sizes. **Type R** is for surface mounting; **Type RV** for mounting on exposed ducts; **Type RTC** for flush mounting in acoustically treated ceilings, fitting flush with acoustic tiles of standard sizes. All types have units of stamped steel, spot welded for rigidity, and are finished in baked enamel lacquer. They can be assembled in many vane arrangements for diffusion in one, two, three or four directions.

DIFFUSERS, Circular: Fabricated of spun aluminum in a variety of sizes for flush or suspended mounting. Available for combination supply and recirculation; also for combination with built-in light sources. Finished in baked aluminum lacquer.

FILTERS (TYPE FM "Agitair"): Permanent cleanable viscous type with filtering media consisting of layers of expanded metal to stop and hold dust for long periods of time.

EXHAUSTERS: Wind-actuated for general ventilating exhausting service. Constructed of heavy-gauge steel with corrosion-resistant finish. Wide "venturi-type" orifices for maximum exhaust efficiency. Designed for positive elimination of down draft. Weatherproof.

DOMESTIC DISTRIBUTION: Authorized dealers in heating and ventilating industry.

Cable Address: AIRDEVICES.

ANEMOSTAT CORP. OF AMERICA, 10 East 39th St., New York, N. Y.

Air diffusers.

ASPIRATING TYPE OUTLETS ("Anemostats") in ceiling and wall models for flush or projected mounting, fabricated for assembly according to air volume and adjustable directionally; line includes model for frequent air change with low velocity (**AR 2**); for use with unit heater (**HU**); combination supply and exhaust (**AC**); supply with adjustable flow pattern (**C-1**); combination diffuser and cove light (**CSL**); combination diffuser and globe light (**NL-1**); flush-mounted ceiling supply (**C**); wall supply (**W**).

DOMESTIC DISTRIBUTION: Air-conditioning contractors.

CARRIER CORPORATION, 300 South Geddes St., Syracuse 1, N. Y.

Air-conditioning and refrigeration equipment. Unitary, self-contained and central station equipment.

DOMESTIC DISTRIBUTION: Branches in principal cities.

FOREIGN DISTRIBUTION: Carrier International Division, 305 Madison Ave., New York 17, N. Y.

CHRYSLER AIRTEMP, 1600 Webster Street, Dayton, Ohio

Packaged air conditioners, central system cooling equipment, packaged water chillers.

PACKAGED AIR-CONDITIONERS: Self-contained units with sealed radial compressors; available in 2,

3, 5, 8, 11 and 15 ton cap. for use on either city water or cooling tower applications. Air handling cap. for both cooling and ventilation with steam coils available for building and ventilation air heating.

CENTRAL PLANT COOLING: Direct-connected, heavy-duty, radial compressor and condensing units available in 10 to 125 ton sizes with variable cap. control to balance output of machine with cooling load.

PACKAGED WATER CHILLERS: Assembled chillers consisting of Chrysler Airtemp variable cap. radial condensing or compressor unit, water chiller, heat exchangers, liquid solenoids, expansion valves, liquid strainers, suction strainers, control and automatic safety thermostats available in 10 to 200 ton cap.

DOMESTIC DISTRIBUTION: Authorized air-conditioning dealers.

CURTIS REFRIGERATING MACHINE DIV. of Curtis Manufacturing Co., 1905 Kienien Ave., St. Louis 20, Mo.

Air conditioning.

TYPE PA AIR-CONDITIONERS: Self-contained cooling units for use within the conditioned space, or with ducts, including heating coils. **MODEL 250PA**, 2 tons; **MODEL 400PA**, 3 tons; **MODEL 600PA**, 5 tons; **MODEL 800PA**, 7½ tons.

TYPE CTAC CENTRAL TYPE AIR-CONDITIONERS: Self-contained "package" equipment for use with ductwork; includes heating coils. **MODEL FWH-1000 CTAC**, 10 tons; **MODEL FWH-1500 CTAC**, 15 tons.

CONDENSING UNITS: Complete range of sizes from ¼-h.p. to 40 tons incl.; ¼ to 2 h.p. air-cooled units; ¼ to 5 h.p. water-cooled units with shell & coil condensers; 7½ to 40 tons water-cooled condensing units with cleanable shell and tube condensers; ¼ through 2 h.p. combination air- and water-cooled units.

COOLING TOWERS & EVAPORATIVE CONDENSERS: Complete range of sizes from 3 to 100 tons cap. for indoor or outdoor use.

AIR HANDLING UNITS AND UNIT COOLERS: Complete range of sizes to match with condensing units above.

DOMESTIC DISTRIBUTION: Authorized air-conditioning dealers. Cable Address: CURTISAW ST. LOUIS USA.

GENERAL ELECTRIC CO., Air-Conditioning Div., Bloomfield, N. J.

Mechanical refrigeration equipment, evaporative condensers, boilers.

TYPE FD UNIT CONDITIONERS: Self-contained cooling equipment for direct space or duct conditioning; include heating with addition of suitable coils. **Type FD-100D**, 10 tons; **FD-75D**, 7½ tons; **FD-50D**, 5 tons; also 2 and 3 tons.

TYPE HD CENTRAL STATION CONDITIONERS: Horizontal (**HDH**) and vertical (**HDV**) models; provide both cooling and heating; five basic frame sizes in each type; cooling range 2 to 49 tons; heating range 34,000-1,169,000 Btu's per hr.; flexible design for space accommodation. Face and bypass dampers for effective humidity control.

TYPE CM CONDENSING UNITS: Cap. range from small room to building requirements. Max. single-unit rating 60 h.p.

TYPE LM BOILERS: Gas-fired for steam, vapor, hot water or radiant heating; eight sizes from 76,800 to 345,600 Btu's per hr.; single or multiple installations.

TYPE LA BOILERS: Oil-fired for all types of heating; five sizes from 100,000 to 450,000 Btu's per hr.

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cooled pressure type; 3 gal. per hr. bottle type. Hermetically sealed refrigeration system, 5-year warranty.

DOMESTIC DISTRIBUTION: Authorized air-conditioning dealers.

Cable Address: INGENETRIC. EXPORT: International General Electric Co., 570 Lexington Ave., New York.

TYPHOON AIR CONDITIONING CO., INC., 794 Union St., Brooklyn, N. Y.

Unit air-conditioners, evaporative condensers, boilers, heat transfer surfaces.

UNIT CONDITIONERS: Self-contained free-standing units with mechanical refrigeration, crackle-finish steel exterior, in 9 cooling capacities, 1¼, 2, 3, 5, 7½, 8, 10, 15 and 20 tons. Sizes from 1½-3 ton console cabinet, 21 3/16" x 35¼", 57" high, to 15-20 ton cabinet, 33" x 62", 95" high. Weights from 689 lb. for 1½ ton console to 3113 lb. for 20 ton model.

EVAPORATIVE CONDENSERS: Compact cabinets, capacities 3, 5, 8, 10, 15 and 20 tons to match all Typhoon air-conditioner sizes, for Freon and other standard refrigerants. **Model ECS**, nominal rating 3 tons; fan 900 cfm; fan motor ¾ h.p.; pump motor ¼ h.p.; dim 24x42x71, wt. 550 lb. **Model EC 20**, 20 tons (nominal); fan 6000 cfm; fan motor 1½ h.p.; pump ½ h.p.; dim. 33x76x76½ in.; wt. 1350 lb. Other sizes in proportion to capacities.

HEATING EQUIPMENT: Water and steam coils to fit any capacity Typhoon package air-conditioner, same all-copper construction and large prime surface used in cooling coils. Boilers for all sizes Typhoon conditioners.

(ALSO SEE PAGE 57)

DOMESTIC DISTRIBUTION: Through RCA Theatre Equipment Supply Dealers (marked with asterisk, page 00).

Cable Address: TYPHOON. EXPORT AGENT: Douglas Fraser, Typhoon Export Corp., 800 Union St., Brooklyn, N. Y.

U. S. AIR CONDITIONING CORP., 33rd and Como Ave., S.E., Minneapolis, Minn.

Unit air-conditioners, heat transfer coils, unit heaters, evaporative condensers, fans air washers.

UNIT CONDITIONERS: "Kooler-air" line of air-conditioning plants with mechanical refrigeration in steel casing designed for convenient servicing. (**Models RK 3 to 50**) in 10 cooling capacities—3, 5, 7½, 10, 15, 20, 25, 30, 40, 50 tons; evaporative condenser, thermal overload protection; max. dimensions (40 tons) 150¼ in. wide, 60¼ in. high; shippable in sections for limited openings. **Models RKW** in same capacities for well water or cooling tower applications. **Models RKC** with water chiller for cold well water air-conditioning. **Models RKCW** with evaporative water chillers, water cooled shell and tube condenser for remote air-conditioning applications. **Models DRK** in capacities from 10 to 50 tons, with two complete refrigeration systems.

FANS AND BLOWERS: Single- and double-inlet types in all sizes, backward and forward curve fans, with standard discharge available; may be used for simple ventilation, with air washers, and for exhaust

HEATING EQUIPMENT: Water and steam heating coils; suspended type unit heaters for steam or hot water, 33,000 to 276,000 Btu's; gas-fired unit heaters, 55,000 to 400,000 Btu's per hour; in cast iron or sheet steel heater exchange models, also in models for duct or simple ventilation (blower) system installation (**Bulletins 23, 71, 72**).

COILS: For water or direct expansion (Freon or

Catalog data

methyl chloride) cooling; depths 1 to 8 rows of tubes. 11 standard header and tube lengths 1 to 10 ft. Heating coils available in complete range of capacities—water and steam types.

EVAPORATIVE CONDENSERS: 15 sizes (Type ECU), available in 7½ to 40 tons capacity, for Freon and other standard refrigerants; also especially compact model (Type R) for Freon cooling plants.

DIRECT SPACE CONDITIONERS: Packaged units in 2, 3, 5, 7½ and 10 ton cap. refrigeration; designed for direct space cooling.

ROOM CONDITIONERS: Window Model, ½ ton, ¾ ton and 1 ton models available.

DOMESTIC DISTRIBUTION: Authorized theatre supply and air-conditioning equipment dealers.

Cable Address: USAIRCO.

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Cable Address: CHICOPEE. EXPORT: Firm export dept.

F & Y BUILDING SERVICE, 319 E. Town St., Columbus 15, Ohio.

Theatre design and construction.

ARCHITECTURAL AND CONSTRUCTION SERVICE includes complete planning and contracting.

(ALSO SEE PAGE 12)

KNOXVILLE SCENIC STUDIOS, INC., Maryville Pike, P. O. Box 1029, Knoxville, Tenn.

Interior Decoration and Stage Installations.

COMPLETE DECORATING SERVICE: Design, decorative and mural painting, black-light decoration, Fiberglas ceilings, wall fabrics. Complete theatre decorating service.

STAGE INSTALLATIONS: Curtains and track and control equipment, draperies, lighting, hardware, rigging, cycloramas.

DISTRIBUTION AND SERVICE CONTRACTS: Direct, or through theatre supply dealers.

EXPORT: Knoxville Scenic Studios, Old Maryville Pike, Box 1029, Knoxville, Tenn.

MARSH WALL PRODUCTS, INC., Dover, Ohio.

Prefinished wall and ceiling panels, mouldings, adhesives and installation accessories.

"MARLITE" PANELING: Prefinished wall and ceiling panels in colors and various texture and grain finishes, available in full range of standard colors and related shades in the "HI-GLOSS" finish; also with addition of black, royal blue and persian red in the polished mirror-like Deluxe finish; in solid colors, scored horizontally ("Horizontaline") or 4 inch squares ("Tile Pattern") in white or harmonizing color. Standard sizes (in ft.) 4 x 4, 4 x 5, 4 x 6, 4 x 8, 4 x 13 (except tile). Thickness 5/32 inch.

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Presdwood and Aluminum Alloy. Marble reproductions in Verdi Antique, Black and Gold, Rose de Brignoles, Jaune Benou and Skyrose; size (in ft.) 2½ x 4, 4 x 8; 8 foot mouldings grained to match in Presdwood and aluminum alloy.

WALLBOARD INSTALLATION MOULDINGS: Aluminum Alloy in all forms, plain, aluminized, color-matched and wood and marble-grained; Presdwood in wood and marble grain and black (other colors on special order) with scoring.

ADHESIVES: For waterproof bonding of wallboard, glass, insulation, metal, plywood; C-200 quality in 1- and 5-gal. cans; C-300 rubber-base type in quart and 1- and 5-gal. cans.

(ALSO SEE PAGE 12)

DOMESTIC DISTRIBUTION: Building supply dealers through U. S.

EXPORT AGENT: Lawrence & Esausquin, 1902 Jefferson St., Toledo 2, Ohio.

NOVELTY SCENIC STUDIOS, INC., 32 West 60th St., New York, N. Y.

Interior decoration.

INTERIOR DECORATION DESIGN, PAINTING & DRAPING, including supply and installation of wall fabrics and stage curtains and drapes; murals.

POBLOCKI & SONS, 2159 S. Kinnickinnic Ave., Milwaukee, Wis.

Front materials including doors, door hardware and box-offices. Plans for prefabricated theatres. (See also listing under Attraction Advertising Equipment and Marquees.)

FRONT FINISHING MATERIALS: Stainless steel to any design, and structural porcelain enameled facing members, erected or shipped for erection by local labor, with or without related components such as poster cases, box-offices, marquees, attraction signs and name signs (see listing under Attraction Advertising Equipment & Marquees).

PREFABRICATED THEATRES: Plans and specifications, material lists and labor estimates and all front materials (see above).

(ALSO SEE PAGE 50)

DOMESTIC DISTRIBUTION: All theatre supply dealers, or direct.

For The Best Signs You'll See . . . In '53

ADLER CHANGEABLE LETTER DISPLAYS

ADLER GLASS-IN-FRAME DISPLAYS—"REMOVA-PANEL"—
"THIRD DIMENSION" PLASTIC
& CAST ALUMINUM LETTERS

ADLER "SECTIONAD" LOW COST
CHANGEABLE LETTER DISPLAYS

WRITE FOR FREE CATALOG

ADLER SILHOUETTE LETTER CO.
11843 b W. Olympic, Los Angeles 64, Calif.
3021 b West 36th Street, Chicago 32, Ill.

PATRIOTIC • SONG
ADVERTISING • DATE
FEATURE • EFFECT

SLIDES

SEND FOR
FREE
CATALOGUE

NATIONAL STUDIOS
145 W. 45 ST., N. Y. C.

STROBLITE CO., 35 W. 52nd St., New York, N. Y.

Blacklight materials and equipment (see also under LIGHTING).

FLUORESCENT PAINTS: Quick-drying transparent liquids of lacquer consistency for painting fabrics; also quick-drying opaque paints of ordinary paint consistency. Cover original materials and can be used on light and dark surfaces. Glow in dark when under ultra-violet (blacklight) radiation; in 12 standard colors including blue, green, yellow, orange, red, pink and white.

FLUORESCENT MATERIALS AND FABRICS: Fabrics with flowers, "glo-dots," rainbow, etc., designs; satins dyed in 7 solid colors; fluorescent American flags.

LUMINOUS PAINTS: Glow in dark after short exposure to strong electric light or daylight; glow strongest immediately after activation; afterglow serviceable only in completely dark surroundings.

DOMESTIC DISTRIBUTION: All theatre supply dealers, and direct.

HAND STAMP: For eliminating pass-out checks; stamp makes mark on hand visible when patron re-enters, passing black-light unit.

Attraction Advertising Equipment & Marquees

ADLER SILHOUETTE LETTER CO., 11843 W. Olympic Blvd., West Los Angeles 64, Calif. and 3021 West 36th Street, Chicago 32, Ill.

Changeable letters and supporting frames for marquee and drive-in signs, and commercial changeable signs.

SILHOUETTE LETTERS: Cast aluminum with recessed face and reflecting bevels ("Third Dimension") in many popular combinations. Sizes 8, 10, 12, 16 and 24 inches used interchangeably on Adler frames and Sectional and interchangeable with Adler Plastic letters. Also available in 4-inch and 6-inch letter sizes with special spacing provided on frames. 4-inch size available for Sectional. Word units ("The," "and," etc.) are also available for interlinear mounting.

PLASTIC LETTERS: Molded of durable translucent plastic with solid triangular bevels and mounting means integrally molded on body of letter; available in permanent red, green, blue and other colors in two-tone plastic. Sizes 10 and 17 inches, interchangeable with Adler Aluminum Silhouette letters on Adler frames. New 17" "Lok-Lip" plastic Safety Letter is self-locking on frames—cannot fall off or blow off the sign regardless of wind or weather.

"SECTIONAD" DISPLAYS: Reinforced baked enamel or porcelain enamel steel frames for front-lighted changeable letter displays; can be built-up to any height or length. Letter bars stainless steel.

SUPPORTING FRAMES: These are available with patented stainless steel "Remova-Panel" feature to fill large openings of any height or length without divider bars, permitting cleaning, repairs and lamp replacement through small lightweight sections of the panel without removing frames. Regular stainless steel "Glass-in-Frames" units also furnished; in these, every other unit is made removable for maintenance.

Branches: 1451 Broadway, New York, N. Y.; Toronto, Ont., Canada; London, England.

(ALSO SEE THIS PAGE)

DOMESTIC DISTRIBUTION: All theatre supply dealers.

Cable Address: ADLERCO

NATIONAL STUDIOS, 145 W. 45th St., New York, N. Y.
Brass date strip slides, glass slides.

DATE STRIP SLIDES: All date combinations on brass slides, perforated, for superimposed projection on trailer picture; also captions for trailers, such as "Coming Soon," "Starts Tomorrow," etc.

Catalog Data

GLASS SLIDES: Stock slides for holidays (Christmas, Easter, New Year's, etc.); patriotic occasions; community singing (old favorites and newer popular songs). Also advertising slides to order for local merchants and national advertisers.

OUTDOOR THEATRES: Special and stock slides for coming attractions, local advertisers, miniature golf course, birthday and anniversary slides.

(ALSO SEE PAGE 55)

DOMESTIC DISTRIBUTION: Direct.

POBLOCKI & SONS, 2159 S. Kinnickinnic Ave., Milwaukee, Wis.

Poster cases, marquees, signs, snack car.

POSTER CASES: Three types of extruded aluminum poster cases, natural and colored finishes, with and without illumination; made to any size; stainless steel cases in any shape or design.

MARQUEES: Fabricated to specifications; regular, or designed for letter and lamp changing and other servicing from storage room inside marquee; inside service type with special reflector lamping; both available in enamel or painted finish.

SIGNS: Name signs and attraction panels for regular theatres (also drive-ins; see listing under Drive-In Theatre Equipment).

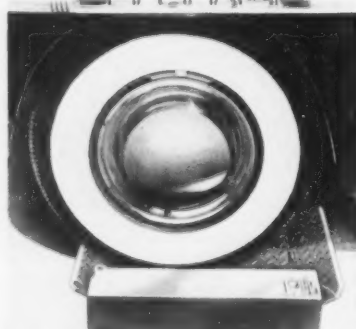
(ALSO SEE PAGE 50)

DOMESTIC DISTRIBUTION: All theatre supply dealers, or direct.

WAGNER SIGN SERVICE, INC., 218 S. Hoyne Ave., Chicago 12, Ill.

Changeable letters and supporting frames panels for marquee and drive-in signs, and commercial changeable signs.

AUTOMATIC CAR COUNTING FOR DRIVE-INS!



None like it anywhere! Always accurate and on the job. Used for years as the Foolproof Automatic Car Counting Meter.

Easy to install.

Simple in operation.

Usually placed just inside the box-office area of a drive-in. Now available with either a visible or invisible locked meter.

For information write:

**BEREZNY ENGINEERING &
MANUFACTURING CO.**

4208 AVALON BLVD.
LOS ANGELES 11, CALIF.

FRAMES: Stainless steel construction, in standard and in window type of sectional design for convenient servicing.

(ALSO SEE PAGE 50)

PLASTIC LETTERS: Adjustable for firm fit and for sliding on bar; in black and translucent red, green, blue, amber; sizes 4, 6, 8, 10, 17 inches; slotted mounting.

DOMESTIC DISTRIBUTION: Dealers: 8, 10, 12, 13, 14, 15, 16, 17, 21, 23, 24, 25, 26, 28, 29, 30, 32, 34, 35, 36, 40, 41, 42, 43, 44, 54, 56, 57, 59, 60, 62, 64, 66, 67, 69, 70, 72, 73, 74, 75, 77, 79, 80, 86, 88, 89, 92, 98, 100, 101, 104, 107, 108, 109, 114, 115, 118, 119, 120, 122, 123, 125, 129, 131, and Detroit Branch.

Auditorium Chairs & Seating Fabrics

AMERICAN SEATING CO., 901 Broadway, N.W., Grand Rapids 2, Mich.

Auditorium chairs.

MODEL No. 20-001 (Bodiform Retractor): Similar to Bodiform Series but in addition, equipped with smooth silent retracting seat, fully tested mechanism completely shielded.

MODEL No. 16-001 ("Bodiform" Series): The Bodiform group has contoured, padded upholstered back with long steel back panel, uniform automatic 3/4 safety-fold seat action and concealed, self-aligning, self-lubricating hinge construction. Seat is full-upholstered, with soft front and spring-arch construction. Easily-replaceable, tackless upholstery. Wide choice of end standards. All end standards furnished with or without arslights, and with or without riser-attached middle standards for easier sweeping. Wide choice of color schemes.

MODEL No. 16-040: Has all the Bodiform features plus deluxe spring-filled padded back for even greater comfort.

MODEL No. 16-870: Super deluxe fully-upholstered deep-sprung back and seat—extra wide, extra comfortable. Other American Seating Company chairs include the No. 16-501 with short, padded back; and No. 16-004 with plywood back panel.

(ALSO SEE PAGE 8)

BRANCHES AND OFFICES: 171 W. Madison St., Chicago 4; 1776 Broadway, New York 19; 354 Nelson St. S. W., Atlanta 3; 2930 Canton St., Dallas 1; 701 Bayshore Blvd., San Francisco 24; 1619 Brookpark Rd., Cleveland 9; 2611 Woodward Ave., Detroit 1; 4053 Lindell Blvd., St. Louis 8; 131 Clarendon St., Boston 16; 923 W. Genesee St., Syracuse 4; 16th at Hamilton St., Philadelphia 39; 212 Oliver Ave. Bldg., Pittsburgh 22; 1815 29th Ave. S., Birmingham 9; 422 Dexter Ave., Montgomery; 1700 Bell Ave., Houston 3; 6900 Avalon Blvd., Los Angeles 3.

DOMESTIC DISTRIBUTION: Above offices and National Theatre Supply.

EXPORT: Amer. Seating Co., Export Dept., 1776 Broadway, New York 19; National Theatre Supply, Export Dept., 92 Gold St., New York 7.

CHICAGO EXPANSION BOLT CO., 1338 W. Concord Place, Chicago 22, Ill.

Auditorium chair anchors.

"SUPREME" EXPANSION BOLTS: Long sleeve type (3/4-inch) to insure maximum anchoring power in concrete or other masonry; supplied with steel cone; available in full range of sizes to meet reseating as well as new floor conditions.

"SUPERIOR" EXPANSION BOLTS: Same as "Supreme" except for cone of metal alloy instead of steel.

"STANDARD" EXPANSION BOLTS: A short sleeve type with alloy cone.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

CHICOPEE MILLS, Lumite Division, 7 Worth St., New York 13, N. Y.

Fabrics woven of plastic filament.

LUMITE WOVEN SARAN FABRICS: "Saran" is

plastic "thread" or filament, and fabric woven of it is highly durable and readily cleaned by merely wiping with damp, soapy cloth or cleaning fluid; it is also non-inflammable and vermin-repellent. Available in a variety of patterns and colors (color is a filament-dyed, not printed). Weave provides qualities of coolness, dryness, absence of wrinkles.

DOMESTIC DISTRIBUTION: Wholesalers and through manufacturers of auditorium chairs.

Cable Address: CHICOPEE. **EXPORT:** Firm export dept.

GOODALL FABRICS, INC., 525 Madison Ave., New York, N. Y.

Upholstery Fabrics.

PILE FABRICS, NOVELTY FRIEZE AND FLAT WOVEN FABRICS: All 54" full range of colors.

PLASTIC FABRICS: "Redo" line of vinyl-coated material, full range of colors and various "grain" finishes.

DRAPERY FABRICS: Hand printed and plain.

DOMESTIC DISTRIBUTORS: All theatre supply dealers.

GRIGGS EQUIPMENT CO., Box 630, Belton, Tex.

Auditorium chairs.

NO. 30 LINE: Steel construction, available with full metal or plywood backs; coil spring seats; steel tubular edge center standards.

NO. 20 LINE: Similar to No. 30, but with cushioned hinge, smooth seat pan.

NOS. 16 AND 12 LINES: Lower-priced group ranging from fully upholstered to veneer styles; all with steel tubular edge center standards.

(ALSO SEE PAGE 19)

DOMESTIC DISTRIBUTION: Authorized theatre dealers (name for specific territory available from company on request).

EXPORT: Fally Markus, 1560 Broadway, New York, N. Y.

HEWITT-ROBINS INC., HEWITT RESTFOAM DIV., 240 Kensington Ave., Buffalo 5, N. Y.

Foam rubber cushioning.

"RESTFOAM" latex foam rubber cushioning fabricated to specifications for auditorium seating and toyer-lounge furniture. position Bldg., High Point, N. C.

BRANCHES: 666 Glenbrook Rd.; 1230 American Furniture Mart, Chicago, Ill. Southern Furniture Ex-

HEYWOOD-WAKEFIELD CO., Gardner, Mass.

Auditorium chairs.

"ENCORE" LINE: No. TC-700, coil-spring seat, padded back, all-steel construction; No. TC-701, coil spring seat, spring-filled back, all-steel.

"AIRFLOW" LINE: Patented "Rocking chair" action. TC 702 has spring-filled back, coil spring seat. No. TC 703 same, with spring-filled pillow headrest.

"MEDALIST (TC-704): Steel except for wood veneer back; coil spring seat.

"ARISTOCRAT" (TC 705): Steel frame, wood veneer back and seat.

(ALSO SEE PAGE 3)

BRANCHES & REPRESENTATIVES: 1 Park Ave., New York 16; 666 Lake Shore Dr., Chicago 11; 937 S. Alameda Blvd., Los Angeles 21; N. C. King, 1907 St. Paul St., Baltimore; 666 Lake Shore Dr., Chicago.

DOMESTIC DISTRIBUTION: Direct and unaffiliated dealers.

EXPORT: N. Y. Branch, 1 Park Ave.; Prazar & Hansen, Ltd., 301 Clay St., San Francisco 11, Calif.

Motion Picture Herald, March 21, 1953

Catalog Data

IDEAL SEATING CO., Grand Rapids, Mich.
Auditorium chairs.

"STREAMLINERS": Three models, two without self-raising seat ("Mercury" and "Challenger"; and "Chief," with self-raising seat having external tension adjustment. Die-cast steel backs and seat pans, coil spring seats, padded or spring backs optional.

"SLIDE-BACK" TYPE: Seat automatically slides back, rises and locks, back moving to vertical position, when occupant stands; action reversed when patron releases seat; steel construction, coil seat springs, spring or padded back optional.

DOMESTIC DISTRIBUTION: Authorized theatre supply dealers (name for specific territory on request from manufacturer).

INTERNATIONAL SEAT CORP., Union City, Ind.
Auditorium chairs.

COIL SPRING MODELS: All steel except Model 191A, seven end standard styles. Model 401A, insert panel back, spring-edge seat; 101A, back 7/16-in. veneer, lacquer finish, spring-edge seat; 301A, padded back, wire-on fabric attachment, spring-edge seat; 201A, padded veneer insert back, spring-edge seat; 350AH, padded welted back, wire-on fabric attachment, spring-edge seat.

DELUXE LINE: #2000 form fitting long back, spring edge seat; #2001 same as #2000 with added back padding; #2400 same as #2000 except uses rubberized hair back padding; #2500, 30 coil spring back chair.

DOMESTIC DISTRIBUTION: Theatre Equipment Section, RCA-Victor Div., Camden, N. J., through dealers marked with asterisk, page 6.

EXPORT: Norpat sales, Inc., 45 West 45th St., N. Y. C., or Intl. Seat Corp., Union City, Indiana.

IRWIN SEATING CO., Grand Rapids, Mich.
Auditorium chairs.

COMET, NO. 4452: Steel construction, spring arch seat.

STANDARD GROUP: Steel construction. No. 3342, coil spring seat, padded back; No. 2241, coil spring seat, plywood back; No. 1141, plywood back and seat.

DOMESTIC DISTRIBUTION: Authorized theatre supply dealers.

KROEHLER MFG. CO., Naperville, Ill.
Auditorium chairs.

AUDITORIUM SEATING: Steel construction with push-back seat in all models; seats full coil spring; choice of end standards in modern styles. Model 1050, padded back; Model 1051, spring back; Model 1052, loge type with high lounge full spring back.

DOMESTIC DISTRIBUTION: Direct.

(SEE ALSO THIRD COVER)

EXPORT: Kroehler Mfg. Co., 666 Lake Shore Drive, Chicago, Ill.

RAYTONE SCREEN CORP., 165 Clermont Ave., Brooklyn, N. Y.
Cast iron attachments with lens for downlighting of auditorium aisles, attachable to existing aisle standards; grey color.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

THEATRE SEAT SERVICE CO., Nashville, Tenn.

Auditorium seating service and supplies, cushions and upholstery fabrics.

REPAIR SERVICE: Periodic inspection and service, installation and rehabilitation in the theatre; complete rehabilitation of worn and fire-damaged theatre seats in factory, including sandblasting, sanding and baked-on enamel.

CUSHIONS AND FABRICS: All of cushion construction, and various makes of standard fabrics.

DOMESTIC DISTRIBUTION: All theatre supply dealers, and direct.

(ALSO SEE PAGE 19)

[For Box-Office Equipment see Ticket Sales]

Drive-In Theatre Equipment

For projection, sound, ticket booth, attraction advertising equipment, see those divisions (Index page 5). For refreshment service products see Theatre Sales Catalog Data (Index page 37).

AMERICAN PLAYGROUND DEVICE CO., Anderson, Ind.

Playground equipment.

ATHLETIC EQUIPMENT: Basketball backstops, goals and supports, castle tower climbing structures; castle walk units; combination units, outdoor gym; giant strides, safety and standards; horizontal bars and ladders; ocean wave units; wave stride units; shuffleboard sets.

RIDES: Merry-go-rounds; see-saw units; slides, all-steel; slides, double-chute; slides, kindergarten and nursery; slides, portable; heavy-duty swing sets; extra-heavy duty swing sets.

BENCHES AND PICNIC EQUIPMENT: Park benches; picnic grills; picnic and park tables.

DOMESTIC DISTRIBUTION: Direct.

AMERICAN SEATING CO., 901 Broadway, N. W., Grand Rapids 2, Mich.

Drive-in stadium seating.

MODEL No. 93: Walk-in chair. Comfortable, durable all-weather stadium chair for walk-ins and for seating around concessions stand. Deep-curved hardwood seats and backs. Weather resistant baked-enamelled cast-iron standards.

FOLDING CHAIRS: For incidental use everywhere, indoors and out. Durable, comfortable design and construction.

DOMESTIC DISTRIBUTION: Branch Offices and National Theatre Supply.

BRANCHES: 187 Spring St. N.W., Atlanta 2; 140 Federal St., Boston 1; 1122 Merchandise Mart, Chicago 54; 215 W. 3rd St., Cincinnati 2; 710 Williamson Bldg., Cleveland 14; 901 Ross Ave., Dallas 2; 650 17th St., Denver 2; 3037 Book Tower Bldg., Detroit 2; 106 W. 14th St., Kansas City 6; 530 W. Sixth St., Los Angeles 54; 12 Sixth St., Minneapolis 2; 570 Lexington Ave., New York 22; 1405 Locust St., Philadelphia 2; 200 S. Main St., Salt Lake City 9; 235 Montgomery St., San Francisco 6; 710 Second Ave., Seattle 4; 806 Fifteenth St., N. W., Washington 5.

BEREZY ENGINEERING & MANUFACTURING COMPANY, 4208 Avalon Blvd., Los Angeles 11, Calif.

Automatic car counting meters.

CAR COUNTING METER: For placing just inside the box-office area of a drive-in to automatically tabulate the number of cars. Available with either a visible or invisible locked meter.

(ALSO SEE PAGE 56)

DISTRIBUTION: Direct.

CREST WIRE COMPANY, 45 W. 45th Street, New York 36, N. Y.

Underground wire for Drive-In Theatres.

NEOPRENE JACKETED ELECTRIC CABLE for direct trench burial for in-car speaker systems and other wiring. #14AWG and #12AWG, twisted pair, rubber insulated and Neoprene jacketed, hard drawn copper.

Complete "PACKAGED" Drive-In Theatre Equipment BY Ballantyne

As the originator of "packaged" equipment for drive-in-theatres, Ballantyne still offers the only complete package unit for any size theatre. Ballantyne also offers a layout of the size drive-in you desire on your own piece of property, including entrances, exits, ramp detail, projection and concession room plans, etc., free of charge to purchasers of Ballantyne equipment. The job of building your drive-in resolves itself to your securing a dirt man and a local contractor to erect the projection and concession room building. Your problem is reduced to the simplest terms. Write for complete free details.



The Royal Soundmaster Model 9 Soundheads. More new features, simplified design, and advanced engineering makes them the most outstanding sound reproducer available—regardless of cost.

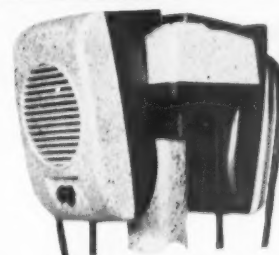


Lightmaster Model 4570 Arc Lamp, 45 to 80 amperes. Provides brilliant light for even the largest theatre or drive-in.

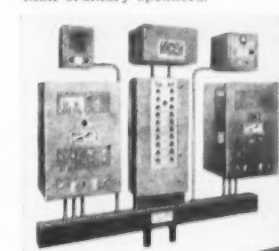


The Boyer "E-Z" Erect Prefab Screen Tower for those who prefer a complete "packaged" screen tower.

For those desiring to build their own screen tower and concession stand, plans, blue prints and layouts are available without cost to purchasers of Ballantyne equipment.



The Ballantyne DUB'L-CONE in-car speaker is accepted as the new standard in speakers today. It is designed to outlast any other speaker 3 to 1 yet it costs no more than ordinary speakers.



MX Series Deluxe Amplifier System for Drive-In Theatres. Complete packaged amplification for from 400 to 1200 cars. RX Series System also available for from 400 to 800 cars. Single or dual channel.

THE BALLANTYNE CO., 1707-17 DAVENPORT ST., OMAHA, NEBRASKA, U.S.A.

3 Dimensional Electric and Mechanical Conversion
Hooks for Most Model Sound Heads Now Available

Catalog Data

EPRAD COMPANY, 1206 Cherry Street, Toledo 4, Ohio.
Drive-in speakers.

SPEAKERS: In-car equipment in three designs; component parts identical, only difference in housing. "Deluxe" model has stamped steel housing; "Universal," die cast aluminum; and "Custom," sand cast aluminum. Speakers can be supplied with either straight cords or Kooled Kords. Junction boxes supplied in four colors and can be equipped with a down-light, giving them a glow-top effect.

DISTRIBUTION: Independent theatre supply dealers.

DAWO CORP., 145 N. Erie St., Toledo 2, Ohio.
Drive-in speakers and signs.

SPEAKERS: In-car equipment in two models, Standard and Special, each with or without coiled cords, or junction box ramp light; weather-treated, water drainage at both cone level and case bottom; junction box fits pipe 1½ in. to 2½ in. diam. Speakers also for car-side and snack stand installation.

DIRECTIONAL SIGNS: Exit, entrance, restroom and similar markers, ramp indicators, traffic control and ticket booth signs on glass for insertion in light box mountable on posts or wall; box cast aluminum, hammerloid finish.

DISTRIBUTION: Unaffiliated theatre supply dealers.

GENERAL ELECTRIC CO., Electronics Park, Syracuse, N. Y.

Speaker units for in-car reproducers.

MODEL S400C2: Aluminum base PM voice coil, moisture-resistant cone designed to prevent warpage, gasket of non-absorptive cork to insure correct position of speaker in housing, special treatment of metal parts for outdoor protection; 4-in., output 4w, coil impedance 3.2 ohms, magnet wt. 1.3 ozs.

MODEL S525C18: Same as above except 5¼-in.

(ALSO SEE PAGE 51)

GRIGGS EQUIPMENT CO., Box 630, Belton, Tex.

Drive-in stadium seating.

Model 105 OUTDOOR CHAIR: Stationary type, cast standards, baked finish; contour fitting hinged seat slatted back.

DOMESTIC DISTRIBUTION: Authorized theatre dealers (name for specific territory available from company on request).

EXPORT: Fally Markus, 1560 Broadway, New York, N. Y.

HABITANT FENCE, INC., Bay City, Mich.

Rustic wood fences and enclosures.

STOCKADE FENCE: White cedar structures for drive-in theatre area enclosures; available in various heights; factory-fabricated to fit individual ground plan.

PICKET DESIGNS: Spaced pickets and post and rail bumper guards for driveway markings and play area enclosures.

SPECIAL PANELS: Rustic picket panels for outside of screen tower, ticket booths and marquees.

DOMESTIC DISTRIBUTION: National Theatre Supply branches (see listing on page 00).

IDEAL SEATING CO., Grand Rapids, Mich.

Drive-in stadium seating.

STATIONARY CHAIR for attachment to flat or inclined floor, indoor or outdoor; cast grey iron standards, slatted wood seat and back; silent direct-attached ball bearing seat hinges; available with wood slats either natural or enamel finish.

DOMESTIC DISTRIBUTION:

EXPORT: Joe Hornstein, Inc., 630 Ninth Ave., New York City.

KING AMUSEMENT CO., 82 Orchard St., Mt. Clemens, Mich.

Playground equipment.

AIRPLANE RIDE: Five chrome-trimmed planes, cap. each 2 children; suspended from steel tower, traverse 25-foot circles; automatic clutch button-controlled.

ROCKET RIDE: Five rocket-type planes, cap. each 4 children; otherwise as above.

SPEEDBOAT RIDE: Five miniature speedboats, cap. each 5 children; powered by electric motor, operate in 18-foot tank.

MINIATURE TRAINS: Electric and gasoline models, track sizes and designs built to order.

PONY-AND-CART RIDE: Eight cast aluminum ponies that gallop, pulling miniature carts, cap. 2 children; all enclosed in canvas top and wall; electric motor operation with push-button clutch.

FIRE ENGINE RIDE: Eight red fire engines with bell; total cap. 16 children; electric motor operation with push-button clutch.

ELEPHANT RIDE: Ten miniature cars shaped like elephant, cap. each 2 children; cars attached to central pole; electric motor operai twonith push-button clutch.

DOMESTIC DISTRIBUTION: Direct.

EXPORT: Home office.

KOOLED KORDS, INC., BOX K, Hamden, Conn.
Straight and retractile electric cable for in-car speakers and heaters.

KOOLED KORDS: Extend at ratio of 5 to 1! retract to compact coil on release; adapted to either speakers or heaters for in-car use.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

MAGIC FOG, INC., Cissna Park, Ill.

Insecticide fogging, general spraying equipment.

Dispensers for insecticide fogging of Lethane and Pyrethrins in two sizes; large unit attached to exhaust of truck; operation from driver's seat; **JUNIOR MODEL** fits most power mowers or lawn tractors.

DISTRIBUTION: Direct.

MINIATURE TRAIN CO., Rennselaer, Ind.

Playground equipment.

MINIATURE TRAINS: Three models, Model G-16 in two styles ("Limited" and "Suburban") designed on one-fifth scale, with electric diesel type locomotive; and Model G-12 "Kiddieland" type.

DOMESTIC DISTRIBUTION: Direct.

POBLOCKI & SONS, 2159 S. Kinnickinnic Ave., Milwaukee, Wis.

Drive-in signs, grounds cleaning carts, and projection screen facing.

SCREEN FACING: Permanent white vitreous enamel metal in a waffle-like pattern, for drive-in screen tower facing.

SIGNS: Attraction panels and name signs, all types, designed to fit all needs.

MOBILE SIGN EQUIPMENT: Electrical metal sign, choice of plastic sign inserts to mark ramps, give traffic directions, etc.

CARTS: Basket mounted on wheels detachable for dumping or burning debris. Without basket to carry concession items and changeable letters, etc.

(ALSO SEE PAGE 50)

DOMESTIC DISTRIBUTION: All theatre supply dealers, or direct.

RAYTONE SCREEN CORP., 165 Clermont Ave., Brooklyn, N. Y.

Drive-in screen paint.

Flat white coating for all types screen structures, painted of titanium with resin base to preserve diffusive characteristics under varying weather conditions.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

(ALSO SEE PAGE 23)

EXPORT AGENT: Westrex Corp., 111 Eighth Ave., New York City.

TODD SHIPYARDS CORP., 81-16 45th Ave., Elmhurst, N. Y.

Insecticidal fog applicator.

Dry fog insecticide dissemination equipment, Series 40-E, gasoline motor-driven, self-contained for one-man operation, for insecticide effective against flies, mosquitoes, etc., without moist or discoloring residue; equipment 24x32 in., 36 in. high, adapted to jeep or trailer mounting; ship. wt. 650 lbs.

DISTRIBUTION: Direct.

WELCH EQUIPMENT, INC., 224 S. Michigan Ave., Chicago 4, Ill.

Insecticide fogging, general spraying equipment.

SUPERCLOUD MACHINE: For mounting on Willys-Overland Jeep (any model), and readily detachable; provides aerosol fog generator for insect control, and has attachments for various uses, as follows, **hand spray**, for direct-pressure application all liquid insecticides to buildings, shrubbery, swamp areas, etc.; **6-foot boom applicator**, for direct-pressure liquid insect, fungus and weed destroyers to lawns, driveways, etc.; **6-foot road oil distributor** for oiling drives, ramps, etc.; special nozzles handle road oils to viscosity of 100, lay down oil in mist to prevent messy residue; **spray painting and tire inflation air supply**, for painting screen, buildings, etc., and for tire inflation service to patrons. Machine detachable from Jeep in 15 min. Ship. wt. 410 pounds. Also mounts on Ford, Chevrolet, Dodge and International.

BRANCH: 2875 Glendale Blvd., Los Angeles.

DOMESTIC DISTRIBUTION: Direct; inquire also through any theatre supply dealer, Willys Overland dealers.

WHITNEY BLAKE CO., Box K, Hamden, Conn.

Underground wire for drive-in theatres.

"TELESEAL" NEOPRENE JACKETED ELECTRIC CABLE for direct trench burial to wire in-car speaker systems, and for comparable wiring, with either No. 14 wire (Cat. No. 14-TSC-2) or No. 12 wire (No. 12-TSC-2).

DOMESTIC DISTRIBUTION: Graybar Electric Company. All theatre supply dealers.

Floor Coverings

AMERICAN MAT CORP., Toledo 2, Ohio

Rubber Mats.

LINK TYPE LOBBY MATS: "Ezy-Rug" heavy-duty rubber link matting; available in black or colors.

PERFORATED TYPE: Entrance matting, perforated and corrugated; available in black or colors.

SPONGE RUBBER RUNNERS: Air-Tred Sponge Rubber Runners, colors black or maroon, thickness ¼" sponge rubber base, topped with resilient long wearing semi-hard surfaces, width 36" x 48", length 60 feet to the roll.

Motion Picture Herald, March 21, 1953

Catalog Data

DO-ALL: Lobby and entrance matting of corded rubber. Available in runners. Colors red, green, blue, black and mosaic pattern. Also used for carpet protection.

DOMESTIC DISTRIBUTION: Direct and all dealers.

BIGELOW-SANFORD CARPET CO., INC., 140 Madison Ave., New York 16, N. Y.

Theatre carpeting.

PATTERN WILTONS: "Delwood" (4-frame) and "Marshfield" (3-frame) all-wool fabrics for heavy-duty service; available in numerous stock patterns and color schemes, or available in special color combinations or patterns on order.

BROADLOOMS: Wilton and Velvet weaves in standard broadloom widths.

"CUSHIONLOK": Heavy-duty Velvet all-wool carpeting with foam rubber backing (foam rubber blown into backing to bind tufts, increase resilience, eliminate lining); available in 27-inch widths with pre-trimmed edges, pattern or solid colors.

DOMESTIC DISTRIBUTION: Through branches and authorized dealers in furnishings field; direct inquiries to home office contract dept.

EXPORT: Through home office contract dept.

THOMAS L. LEEDOM CO., Bristol, Pa.
Carpeting.

RCA THEATRE CARPETING: Exclusive patterns designed especially for theatres, in three Wilton weaves ("Headliner," "Top Performer," "The Showman") and one Saxony Wilton ("Achievement").

LEEDOM WEAVES in contract grades, available in solid colors and variety of stock patterns and color schemes; also in special colors to suit interior. Grades "Latonia," "Lipton," "Laverock," "Radcliffe," "Radcliff Loop," "Woodcliffe."

BRANCHES: 295 Fifth Ave., New York; 1879 Merchandise Mart, Chicago; 1311 St. Clair Ave., Cleveland.

DOMESTIC DISTRIBUTION: RCA line through RCA theatre supply dealers (see dealers marked by asterisk on page 68; Leedom line direct and through branches and representatives.

C. H. MASLAND & SONS, 295 Fifth Ave., New York, N. Y.

(Alexander Smith Inc., Sole Selling Agents.)
Carpeting.

VELVET WEAVES in standard and de luxe grades.

WILTON WEAVES in heavy-duty grades and de luxe qualities. Special colors and designs for minimum weavings.

DOMESTIC DISTRIBUTION: Local branch offices; National Theatre Supply branches and carpet contractors.

ALEXANDER SMITH, INC., 295 Fifth Ave., New York, N. Y.

Carpeting.

CRESTWOOD, CRESTMONT: De luxe specialty carpets in wide assortment patterns and color effects. Also available in special design for specific interiors.

DOMESTIC DISTRIBUTION: Local branch offices; National Theatre Supply branches and carpet contractors.

RADIO CORP. OF AMERICA, Engineering Products Dept., Camden 2, N. J.
See under **THOMAS L. LEEDOM CO.,** Bristol, Pa.

[**HEARING AIDS—See Projection and Sound**]

Cut Hours of Time! Have Better Housekeeping!

WITH

TORNADO®

THEATER CLEANING

Is yours the one out of every four theaters being "Tornado cleaned" today? If not, you're missing your big opportunity to reduce cleaning hours with plenty of savings. Tornado offers faster, more thorough cleaning of seats, floors, stairs, screens and other areas. It's the machine designed to answer each difficult problem of theater cleaning.



As a Blower Sweeper

Tornado moves boxes, rubbish and debris four times faster than any other method—cleans where nothing else will.



As Shoulder-Type Vacuum

Tornado cleans stairs, seats, drapes, screens, carpets—Is always at the operator's side, causes less fatigue.

Learn the whole story about Tornado Theater Cleaning

Write for Bulletin 597

BREUER ELECTRIC MFG. CO

5100-B NORTH RAVENSWOOD AVENUE

CHICAGO 40, ILLINOIS

Catalog Data

Lighting

JACK A. FROST, 234 Piquette Avenue, Detroit 2, Mich.
Lighting rental service.

SPECIAL LIGHTING SERVICE: Company will rent any lighting equipment for specialized display, theatrical, studio and motion picture needs. Service includes installation and removal of equipment.

DISTRIBUTION: Direct.

(ALSO SEE PAGE 51)

GENERAL ELECTRIC CO., Lamp Div., Nela Park, Cleveland 12, Ohio.

Filament and fluorescent lamps; black-light sources; germicidal lamps projection lamps. (See Projection and Sound.)

GENERAL SERVICE FILAMENT LAMPS: All standard wattages up to 1,500 watts in inside frosted type; clear lamps regularly in wattages above 100 (also 10 watts). These require protection from weather; for outdoor use, vacuum lamps are available from 6 to 40 watts, either frosted or colored. Round and flame shapes available in outside-colored lamps, in small wattages.

LUMILINE LAMPS: Tubular filament type in clear and inside-frosted varieties, also inside-colored (straw, orange, blue, green, pink); 30 and 60 watts (17 1/4 inches); 40 watts (11 3/4 inches).

FLUORESCENT LAMPS: Phosphor-coated tubes in various diameters up to 2 1/2 inches; lengths in inches for popular wattages—15w, 18; 20w, 24; 30w, 36; 40w, 48. New simplified line of white types. Standard cool white and standard warm white for highest efficiency; deluxe cool white and deluxe warm white for best appearance of room finishes and patrons' complexions. Colors—pink, gold, blue, green, red.

SLIMLINE LAMPS: Most popular sizes—8", 6", 4" lengths in 1 1/2" diameter. Also available in 42" and 64" lengths of 1 1/2" diameter and 8" and 6" lengths of 1" diameter.

CIRCLINE LAMPS: Fluorescent lamps of circular shape; diameters, 8, 12 and 16 inches; white.

PROJECTOR LAMPS: (PAR38) Filament type with built-in reflector, hermetically sealed for outdoor as well as indoor use; available for spot and flood applications; 150 watts; base for regular sockets. New 200-watt PAR46 and 300-watt PAR56 narrow beam spotlamps and 300 watt PAR56 floodlamp.

REFLECTOR LAMPS: Filament type with built-in reflector fabricated for indoor use; a spot and a flood variety; 75, 150 and 300 watts, base for regular sockets. New 300 and 500-watt spot and flood with heat resistant glass bulb for outdoor use.

BLACK LIGHT SOURCES: Filament ultraviolet (Purple X) lamps, 250 watts, bulb dark glass to filter out visible light (relatively low output), for intermittent burning; fluorescent tubular blacklight lamps in regular fluorescent lamp sizes and wattages available with bulbs of clear glass or dark purple filter glass; mercury ultra violet lamps (Type H), used with filter for visible light. Popular sizes: 100-watt EH4 (flood) and CH4 (spot) sealed beam type, and 250 watt AH5.

GERMICIDAL LAMPS: Ultraviolet tubular lamps for placement in air ducts, and for room installation in special fixtures.

OZONE LAMP for odor reduction. 4 watts S11 bulb.

DISTRIBUTION: Lamps most used by theatres stocked by many theatre supply dealers; others by electrical supply dealers; orders through either for lamps not in stock.

KLIEGL BROS., 321 W. 50th St., New York 19, N. Y.

Stage borderlights, footlights, spots, floods, switchboards, auditorium, downlights, cove-lights, architectural, display, lighting control equipment.

STAGE BORDERLIGHTS: Individual Alzak-finished reflector-type, 60w to 100w for glass roundels; com-

partment-type 100w to 200w individual Alzak-finished reflector for gelatine or glass color frames; reflector lamp compartment-type, 150w to 300w for gelatine or glass color frames; open trough type 60w to 100w painted or Alzak-finished, continuous reflector.

STAGE FOOTLIGHTS: Individual Alzak-finished reflector-type, 60w to 150w, single or double-row with glass roundels; open trough type, 60w to 100w, painted or Alzak-finished, continuous reflector; disappearing type with individual Alzak reflectors, 100w to 150w, or with continuous painted reflector in 60w to 100w sizes.

STAGE SPOTS: Fresnel lens type, 100w to 5000w, 1- to 16-in. lens; plano-convex type, 250w to 2000w, 4 1/2- to 8-in. lens.

STAGE FRONT LIGHTS: Auditorium recessed ceiling lights for front stage lighting, "Klieglight" type with or without remotely operated color changing color frames; balcony front "Klieglight" or Fresnel lens units with balcony front housings.

"KLIEGLIGHTS": 250w to 3000w types with ellipsoidal reflectors, 6- to 12-in. lenses, drop-in or built-in square shutters, iris shutters and curtain shutters.

STAGE FLOODS: Compartment or reflector types, all sizes, for hanging and stand use.

FOLLOW SPOTS: 3000w to 3000w "Klieglights" with rear-operated iris and curtain shutters, color frame boomerang; arc types 60 amp., 6- or 8-in. lens units.

SWITCHBOARDS: "Kliegboards," selector (selector switch) type, patch boards, electronic boards, all sizes and capacities to specifications; also portable types.

AUDITORIUM DOWNLIGHTS: 200w to 1000w, relamped from above ceiling; plaster ring, 6-in. opening.

AUDITORIUM LENS UNITS: Flush ceiling mounting, above or below ceiling relamping, 100w to 500w, lenses 4 1/2- to 16-in. diam.; recessed lens type with lenses 2 in. above ceiling line.

AUDITORIUM LOUVRE TYPE: Flush ceiling mounting, relamping above or below ceiling, 100w to 500w, cast aluminum concentric ring louvers.

AUDITORIUM COVE STRIPS: All sizes, all shapes, with or without Alzak-finished reflectors; use standard filament lamps, lumilines, fluorescent, slimline and reflector lamps.

AUDITORIUM EXIT SIGNS: All sizes, all finishes, surface or flush mounting, sheet metal or cast frames, glass or sheet metal stencil letters.

DISTRIBUTION: Through electrical contractors, and direct.

(ALSO SEE THIS PAGE)

STROBLITE CO., 35 W. 52nd St., New York N. Y.

Blacklight equipment.

BULB: 2-watt, argon glow lamp.

LAMP: For close range; consists in 2w bulb, 3-in. reflector, cord with plug; with filter gives dark rays.

FILAMENT BLACKBULB: 250w, average life 50 hours; for intermittent service.

ULTRA-BLUE LAMP: 15w, with replacement tube; for 110v a.c. or d.c.; blue filter glass included. Also 30w and other sizes.

MERCURY LAMPS: Intense ultra-violet light supplied by mercury arc bulb operated from autotransformer on standard 110v, 60 cycle, a.c.; consists of bulb and 5-in. filter roundel, attachment ring, small stand and housed transformer. Available in 100w, 250w, 275w sizes.

DOMESTIC DISTRIBUTION: All theatre supply dealers, and direct.

WESTINGHOUSE ELECTRIC CORP., Lamp Division, Bloomfield, N. J.

Filament and fluorescent lamps, neon indicators, germicidal Sterilamp and black-light lamps; projection lamps (see Projection and Sound).

FILAMENT—GENERAL SERVICE, SIGN AND DECORATIVE: Regularly available inside-frosted 10-1000 watts; clear bulbs 6- 10-w, and wattages above 100; coated colored 10-40 watts; also 15w, 25w, 40w round and 15w and 25w flame shape. Vacuum lamps for outside exposed use, 6w to 40w.

FLUORESCENT (F-Lamps): White, Daylight, Standard Cool White in 6, 8, 13, 14, 15, 20, 25, 30, 40, 85, watts in lengths 9-60 inches, diameters 3/4 to 2 1/4 inches; Soft White and Warm White (light quality similar to filament lamps) in 15, 20, 25, 30, 40, 85 watts; colors (blue, green, pink, gold, red) in 15, 20, 30, 40 watts. "Circline" 22 and 32 watts.

SLIMLINE FLOURESCENT: T-6 type, 42- and 64-inch; T-8 type, 72- and 96-inch; both in all standard whites. T-12 type, 48-, 72- and 96-inch.

PROJECTORS AND REFLECTORS: Self-contained with sealed-in reflector for either spot- or floodlight. Projector type for both outdoor and indoor use, 75w, 150w. Reflector type for indoor use, 75w, 150w, 300w.

LUMILINE: Tubular filament, inside-frosted, straw, orange, blue, emerald, pink, white in 30w and 60w (17 1/4 in. long), and 40w (11 3/4 in.).

BLACK-LIGHT SOURCES: Fluorescent tubes (Type 30BL) in 6, 15, 30, 40 watts; mercury vapor bulbs (particularly C-H4 spotlight, E-H4 floodlight); 250-watt filament, purple X filament, ultraviolet with visible light filter.

GERMICIDAL STERILAMPS: Tubular ultraviolet for air disinfection installation in air ducts, or in special room fixtures.

NEON INDICATORS: Indicator lights in variety of sizes from 1/25 to 1 watt.

DISTRIBUTION: Stocked by theatre supply and electrical supply dealers, otherwise consult nearest Westinghouse Lamp Division office.

THEATRE LIGHTING

A dependable source for all your lighting requirements . . . originators and manufacturers of "Klieglights" . . . specialists in the field for more than half a century.

STAGE LIGHTING

ARCHITECTURAL LIGHTING

SPECTACULAR LIGHTING

SPOT LIGHTING

FLOOD LIGHTING

Footlights	Borderlights
Frontlights	Bridgelights
Downlights	Blacklights
Directional Signs	Dimmer boards

and many other products

INQUIRIES INVITED

KLIEGL BROS

UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.

321 WEST 50TH STREET
NEW YORK 19, N. Y.

Telephone: COLUMBUS 5-0130

Catalog Data

Maintenance and Wash Room Equipment

BREUER ELECTRIC MFG. CO., 5100 Ravenswood Ave., Chicago 40, Ill.

Maintenance equipment.

"**TORNADO**" Theatre Blowers Nos. 48T, 50T, 52T. 3/5 h.p. to 1-1/3 h.p. May also be used as pack carried vacuum cleaner and insecticide sprayer.

"**TORNADO**" commercial wet and dry pickup. 3/5 h.p. to 1-1/3 h.p., three models; also noiseless models.

"**TORNADO**" NO. 600 Series: Floor maintenance machines in four sizes, eight models. Scrub, shampoo, wax and polish.

(ALSO SEE PAGE 59)

DOMESTIC DISTRIBUTION: Authorized dealers (name for specific territory available from company on request).

CHICAGO HARDWARE FOUNDRY COMPANY, North Chicago, Ill.

Electric hand driers.

PEDESTAL MODEL NO. 5A: Drier equipment mounted on pedestal with push-button switch with automatic shut-off, drier housing and pedestal finished in porcelain enamel in white; standard 115 volts; 19.6 amps.

WALL MODEL NO. 8A HAND DRIER: Mounts to any type wall. Push button switch with automatic shut-off. New type circuit breaker eliminates blowing of fuse when air stream is blocked. Finished in white porcelain enamel; standard 125 volts; 19.6 amps.

STOOLS AND TABLES: Solid bronze, aluminum and cast iron finished in porcelain enamel.

DOMESTIC DISTRIBUTION: Direct and all theatre supply dealers.

NATIONAL SUPER SERVICE CO., INC., 1941 N. 13th St., Toledo 2, Ohio.

Vacuum cleaners.

Heavy duty equipment available in four models for both wet and dry pick-up. Two models, inside bag, operate at absolute minimum noise level. Three models can be quickly converted for blowing. Specially developed tools for cleaning screens, extension tubes for over-head work, large-mouth floor tool for bulky litter.

(ALSO SEE PAGE 19)

DOMESTIC DISTRIBUTION: All theatre supply dealers—maintenance supply distributors.

SPENCER TURBINE CO., Hartford 6, Conn.

Vacuum cleaning equipment.

COMMERICAL MODEL: Mounted on 10-in. rubber-tired rear wheels and single front caster; 1 h.p. universal motor operable on a. c. or d. c.; 50-in. water lift at end of 25-ft. hose of 3/4-in. orifice; wt. 188 lbs. net; attachments include wet separator for wet pickup, dry mop cleaner; dirt pan cap. 6 gal.

MULTI-VAC SENIOR: Motor 3/4 h.p.; wt. 58 lbs.; dirt can cap. 4 gal.; 47-in. water lift at 25 ft. 3/4-in. orifice. **Multi-Vac Junior,** 1/2 h.p., dirt cap. 1.6 gal.

STATIONARY SYSTEMS: Central vacuum cleaning plants in capacities to requirements of theatre.

DOMESTIC DISTRIBUTION: Authorized dealers, and direct.

Projection and Sound

C. S. ASHCRAFT MFG. CO., 36-32 38th St., Long Island City, N. Y.

Projection arc lamps, rectifiers for d. c. projection arc supply.

Features

Western Series

Travelogues

News



BLACK
and White

COLOR

and also **CINERAMA***

They all look best with
SUPER SNAPLITE
f/1.9 Projection Lenses

True speed of f/1.9 in every focal length up to 7 inches. Ask for bulletins 207 and 209.

*CINERAMA uses Kollmorgen Super Snaplite Lenses

YOU GET MORE LIGHT WITH SUPER SNAPLITE

KOLLMORGEN

Plant: Northampton, Massachusetts

New York Office: 30 Church Street, New York 7, N. Y.



A Big HIT!

Sold thru THEATRE SUPPLY DEALERS Exclusively

GOLDBERG Automatic FILM REWINDER

GOLDBERG BROS. DENVER, COLO.

Sold thru Theatre Supply Dealers Exclusively

**SILVERLITE
3D SCREEN
COATING**

FOR INDOOR AND DRIVE-IN SCREENS

Prepare your present flat surface screen for 3 dimensional projection at lowest minimum cost.

Available through Theatre Supply Dealers.

VOCALITE SCREEN CORP.
ROOSEVELT NEW YORK

Catalog Data

75-115 AMPERE REFLECTOR LAMP: "Super-High" using 9 m/m x 20 in. or 10 m/m by 20 in. rotating positive (water cooled)—5/16 x 9 and 11/32 x 9 in. negative—16 in. FL9 reflector.

90-95 AMPERE REFLECTOR LAMP: "Hydro-Arc" using 9 m/m x 20 in. or 8 m/m x 14 in. positive (water cooled) 7 m/m x 9 in. neg. 15 in. reflector.

48-65 AMPERE REFLECTOR LAMP: "Suprex C70" using 7 or 8 m/m x 14 in. positive, 6 or 7 m/m x 9 in. negative, 14 in. reflector.

RECTIFIERS: Selenium 60-90 amperes and 60-100 ampere, 3 phase.

WATER CIRCULATORS for water cooling positive carbons.

DOMESTIC DISTRIBUTION: Authorized theatre supply dealers (name for specific territory on request from manufacturer).

EXPORT: Westrex Corp., 111 Eighth Ave., New York 11; except in Canada: Dominion Sound, 114 Bond St., Toronto.

(ALSO SEE PAGE 25)

AUTOMATIC DEVICES CO., 116 N. 8th St., Allentown, Pa.

Motor-generator sets for d.c. supply from a.c. lines.

BUILT-UP UNIT TYPE ("Stabilarc" No. 195): Available in output ranges from 20-40 amperes to 1000-1500 amperes. Generator, rheostats and starter separate units. Regularly available in 42, 60 or 80 volts for 60-cycle lines; sizes 20-40, 30-60 and 40-80 amperes mounted on sub-base.

STANDARD MODEL ("Stabilarc" No. 1373): A complete unit with generator, ballast resistors, across-the-line starter and control panel; available in Model 195 output ranges and regular voltages, 60 cycles (other line conditions accommodated on special order).

(SEE PAGE 65)

DISTRIBUTION: All theatre supply dealers.

THE BALLANTYNE CO., 1712 Jackson St., Omaha, Neb.

Projectors, Arc Lamps, Rectifiers, Pedestals, magazines, Soundheads, Amplifiers, Horn Systems, Drive-In Speakers, Drive-In Directional Signs, Prefabricated drive-in screen towers.

COMPETE SOUND SYSTEMS: Arranged in five capacity groups—to 1250 seats (with No. 39 horn systems), Models 530, 630, 730; up to 900 seats (with No. 20 horn system) Models 520, 620, 720; Up to 680 seats (with No. 14 horn system), Models 514, 614, 714; up to 350 seats (with No. 11 co-axial two-way speaker), Models 511, 611, 711; up to 350 seats (with HF-7 "Silver Spiral" speaker), Models 507, 607, 707. Sound systems also available with Western Electric or Altec-Lansing horn systems.

SOUNDHEADS: Designed for use with all standard makes of projectors, and adaptable to Power's. Model 6 has directly connected all-gear flexible soundhead-projector motor drive, vibration-filtering exciter lamp mounting, isolated sound feed sprockets, gyroscopically controlled rotary scanning drum, constant axis optical system carriage, prefocused exciter lamp. Gear boxes for 25-, 50- or 60-cycle current; boxes interchangeable. Model 9, a later development with new film travel, gear box, simplified drive, oil damped filter fly-wheel, patented tilt-out exciter lamp holder, with all moving parts in sealed ball-bearings.

HORNS AND SPEAKERS: Three two-way systems with cellular high-frequency horn (Alnico 5 PM driver), 15-inch PM low-frequency speaker unit mounted in acoustically reinforced horn baffle; and two small theatre models (HF-7-SS and No. 11). Model 30 has two low-frequency units; dividing network crossover at 500 cycles; five-step high-frequency attenuation for acoustical adaptation to auditorium. Model 20 similar to No. 30, but with single low-frequency unit. Model 14 has smaller low-frequency baffle with simpler high-frequency cellular horn mounted on top for adaptation of units to smaller theatres. Model HF-7-SS, for auditoriums up to 350 seats, has a "Silver Spiral" speaker mounted in horn baffle for full frequency output. Model 11 has two-way speaker unit, combining cellular high-frequency horn by means of an acoustical coupler, with dividing network and horn baffle mounting. Also can supply Western Electric and Altec-Lansing horn systems.

HIGH-INTENSITY ARC LAMPS: Model 4570, 45-70 amps., arc magnetization by Alnico 5 permanent magnet; 14-in. reflector at 32-in. working distance for optical efficiency with f/20 lens; each carbon fed by independent screws with 12-in. travel on positive; mirror flame shield and dowser operated by handles on both sides; finished in grey wrinkle with anodized aluminum trim. "Arcmaster," 45-50 amps., magnet arc stabilization, manual carbon positioning, double cone drive for positive feed, mirror guard operated by dowser lever.

RECTIFIERS: Six tungar tube types—SP40, 4 tubes, 40 amperes, single-phase; SP60, 4 tubes, 60 amperes, single-phase; 3P60, 4 tubes 60 amperes, three-phase;

SP80, 6 tubes, 80 amperes, single-phase; 3P80, 6 tubes, 80 amperes, three-phase. Also 90-amp. model, single or three-phase. All models are finished in gray baked-on wrinkle paint.

PEDESTALS: Two regular theatre models, either available with upward-tilt equipment carriage for drive-in theatres. Model 1500 is straight-column type; Model 1600 has forward slant (streamline effect). Lamp and motor switches available for mounting on either.

EXCITER LAMP SUPPLY: Model NS0-D, tube type for two 10v, 5 amp. lamps.

AMPLIFIERS: Complete series of amplification units for regular theatres, in dual or single channel cabinet; and the MX and RX series for drive-in theatres. Dual channel system (PD-56) has two amplifiers with switch changeover, monitor and its amplifier built in. PD-55 provides single channel in dual cabinet for adding standby (PD-50), single channel in single channel cabinet. All volume controls of step type with silver contacts. Also available are speaker-amplifier equipment for cry-rooms, etc. (PD-52); hearing aid amplifier (PD-53); monitor cabinet (PD-54). The MX Series for drive-ins provides systems for from 400 to over 1,000 cars. MX-1 single-channel 200w; MX-2 dual channel 200/400w; both systems include MX-28A ramp control panel to monitor or cut out any speaker section; room panel accommodates cabinet for non-sync, radio, etc. The RX Series for drive-ins provides systems for from 200 to 600 cars. RX-11 single channel 125w; RX-12 dual channel 125/250w; both systems include RX-28A ramp control panel.

PROJECTORS: Model BW (mfd. by Wenzel Projector Co.), oilite bearings, drive a stationary stud turned by main drive gear, lens mount with adjustments front of case, framing light and full-size door on operating side, rear shutter, provisions for 4-inch lens mount.

DRIVE-IN SPEAKER: types. AX90, Doub'l Cone, PM speaker with aluminum voice coil, aluminized treated diaphragm, and two cones, one superimposed on the other for protection from weather*, in a die-cast aluminum housing with baked finish in several contrasting colors, junction box of same housing design, with or without downlights, speaker with straight or coiled cords. AX 45 overflow crowd speakers consisting of bell-shaped marine all-weather speakers, complete with box cap and volume control.

DRIVE-IN SIGNS: New cast aluminum signs with letters cast as a part of the aluminum housing for lamp signs, enter and exit, and directional signs. Available for sale on post mount.

(ALSO SEE PAGE 57)

SCREEN TOWERS: Completely prefabricated in wood, including all hardware, ship-lapping of screen face, and screen. Shipped on company truck from Omaha. Come in four sizes, 56x38 56x32, 59x56, 64x60.

DOMESTIC DISTRIBUTION: Authorized theatre supply dealers (name for specific territory available from manufacturer). Cable Address: BALCO. Export Agent: K. Streuber & La Chicotte, 1819 Broadway, New York 23 (cable KASTREUBER).

BAUSCH & LOMB OPTICAL CO., 658 St. Paul St., Rochester, N. Y.

Projection lenses.

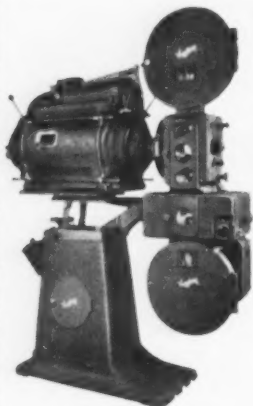
SUPER CINEPHOR: Coated lenses working at an aperture of f/2.0, available in focal lengths from 3 to 5 inches in 1/4-inch steps. In permanently sealed mounts to prevent internal dust, dirt or oil vapor.

LONG FOCUS SUPER CINEPHOR: Coated lenses, f/2.0, focal length 5 1/4 in. to 7 in. in 1/4" steps. 4" diameter one piece barrel, increased illumination, heat resistant cement, regular production for prompt delivery.

CINEPHOR SERIES II: Coated lenses available in the longer focal lengths, from 5 1/4 to 9 inches; hence, maximum speed f/2.5 (down to f/3.7, depending on focal length). Permanently sealed.

POPULAR-PRICED CINEPHOR: These are f/2.0 lenses formerly uncoated, but now coated without increase in price. Available in focal lengths 3 1/2 to 5 inches. Mounted in No. 2 barrel.

BRANCHES: 1324 Eye St., N. W., Washington 3, D. C.; 16849 Grand River, Detroit 27, 30 Rockefeller



The Best Projector in Sight

CENTURY Projectors are the choice of leading theatres in the United States and the World Over. Why? Because of simplified design, fewer parts, minimum lubrication—which means less wear, easier maintenance and steady, brilliant projection. CENTURY Projectors were the choice of CINERAMA, the new, significant "3rd dimensional" motion pictures now showing in New York.



CENTURY PROJECTOR CORP. NEW YORK, N.Y.

FOREIGN DISTRIBUTORS

IN CANADA
Dominion Sound Equipments Limited
MONTREAL, CANADA



OUTSIDE U. S. A.
AND CANADA
Westrex Corporation
NEW YORK, N.Y.

Catalog Data

Plaza, New York 20; 18 S. Michigan Ave., Chicago 3; Box 2142, 1814 Chestnut St., Philadelphia 3; 131 Clarendon St., Boston 16; 20 Jones St., San Francisco; 314 W. Sixth St., Los Angeles 14; 388 Yonge St., Toronto, Ont., Canada.

DOMESTIC DISTRIBUTION: NTS branches: RCA dealers (asterisk); and unaffiliated dealers (name for specific territory available from manufacturer).

EXPORT AGENTS: National Theatre Supply Export Dept., 92 Gold St., New York 7; RCA International Division, 30 Rockefeller Plaza, New York 20; K. Streuber & La Chicotte, 1819 Broadway, New York 23; Westrex Corp., 111 Eighth Ave., New York 11.

CALI PRODUCTS CO., 3721 Marjorie Way, Sacramento 20, Calif.

Carbon savers.

CARBON COUPLERS for all carbon trims.

DISTRIBUTION: All theatre supply dealers, and direct.

CARBONS, INC., 400 Myrtle Ave., Boonton, N. J.

Carbons for projection arc lamps.

"LORRAINE" Carbons (manufactured by Le Carbone-Lorraine, France), comprising a complete line of types and sizes for high-intensity arc lamps for 35mm motion picture and comparable light projection.

(ALSO SEE PAGE 22)

DOMESTIC DISTRIBUTION: By authorized dealers in certain territories (names and addresses on request of Lorraine-Carbons, Inc.) and elsewhere direct.

CENTURY PROJECTOR CORP., 725 Seventh Ave., New York 19, N. Y.

Projectors, pedestals, magazines, soundheads, amplifiers, rewinders.

PROJECTOR MECHANISMS: Single rear shutter (Model C) and double shutter (Model CC) with two rear shutters operating in one casing. Mechanisms also supplied with water cooled apertures. 4" diameter lens mount standard equipment. **Magazines,** 3,000-foot for standard and for drive-in theatres. An air deflector (CI-T-100) is available for mounting on any mechanism of rear shutter type where lamp shows sensitivity to air disturbance.

PEDESTALS: Model C for regular theatres and for drive-in theatre upward tilt.

SOUNDHEADS: Two series, each with "Hydro Flutter Suppressor" rated to reduce film-flutter to .08% or less. The "Master" (Model R2) is further equipped with an "electro-tension governor" for flutter elimination and vertical drive motor with flexible coupling. The "Standard" (Model R3) is of simplified design, with hydro flutter suppressor.

AMPLIFIERS: Main amplifier, W3-11, 15 watts, with low-capacity cable connector to photocells; main amplifier, W5-17, 18 watts, used with pre-amplifiers.

POWER amplifiers W5-16 (40 watts), W5-19 (200 Watts), 287-W (250 watts).

REWINDERS: Two heavy-duty models—M & P clamp type, and MM & PP bench type.

(ALSO SEE OPPOSITE PAGE)

3RD DIMENSIONAL DEVICES: Synchronizers and Polaroid Booth Filters for Century equipment and adaptable for most other makes of projectors and sound reproducers.

ACCESSORIES AND PARTS: Replacement parts for Century Model C, Model K and Kaplan projectors; rear shutter attachment (No. D-90) for converting front shutter mechanisms; double bearing (No. BB) and super movements (No. BBB) for Kaplan mechanisms; tools for repairing projector mechanisms, and "Century Certified" projected oil available in 1 gal. tins.

DOMESTIC DISTRIBUTION: Dealers 1, 2, 7, 9, 17, 22, 26, 32, 35, 39, 40, 44, 54, 57, 63, 66, 70, 72, 82, 86, 88, 96, 98, 99, 109, 112, 115, 116.

EXPORT: Westrex Corp., 111 Eighth Ave., New York 11.

CONTINENTAL ELECTRIC CO., Geneva, Ill.

Electronic tubes for sound systems and current rectification.

"CETRON" LINE of photocells for motion picture soundheads; tungar tubes for projection a. c. power line rectifiers (also Thyatron tubes for lighting control consoles and comparable current control).

DOMESTIC DISTRIBUTION: All theatre supply dealers.

Cable Address: CONTINENTAL. **EXPORT:** E. D. Magnus & Associates, 188 W. Randolph St., Chicago 1.

DA-LITE SCREEN CO., 2723 N. Crawford Ave., Chicago, Ill.

Motion picture screens.

V-1 Matte-white, flame-proof, mildew resistant (folding type fabric).

V-3 matte-white, flame-proof, mildew resistant.

V-4 White Magic crystal-beaded, fire resistant, mildew resistant.

DISTRIBUTION: All theatre supply dealers.

DeVRY CORP., 1111 Armitage Ave., Chicago, Ill.

Sound projectors, amplification systems, in-car speakers, 16mm sound-projection equipment.

THEATRE PROJECTION-SOUND SYSTEM ("12,000 Series"): Unified projector-soundhead with or without the complete amplification system built up according to capacity of theatre from amplifier units noted below and available with Altec-Lansing two-way horn system. Pedestal designed for downward or upward tilt, with built-in rectifier for exciter supply. Heads designed for removal by units for servicing, including sprocket assembly. Shutter rear barrel double-action type Chain drive.

AMPLIFIERS: Six systems, two not requiring pre-amplifiers—20.30 watts single channel (No. 2820) and dual channel (No. 2823) with built-in monitor. With pre-amplifiers—No. 12,020, 20-30 watts single; No. 12,016, 40-60 watts dual; No. 12,030, 80-120 watts dual; No. 12,822 250 watts single, specified for drive in theatres.

IN-CAR SPEAKERS: Drive-in units designed for standard pipe mounting; speakers Alnico-v PM, 5-inch; spring-coiled cable; housing aluminum alloy, gray hameroid finish.

TRANSPORTABLE 35mm SOUND PROJECTOR (Model 2810): Mazda illumination to 1,000 watts; carried in all-metal case, except for amplification and speaker; with portable amplifier and 12-inch heavy-duty PM speaker, or adapted to permanent sound system.

PORTABLE 35mm SOUND PROJECTOR ("Suitcase" Model No. 1): Mazda illumination to 1,000 watts; wt. approx. 60 lbs.; with portable amplification and speaker as above, or adapted to permanent sound system.

PROFESSIONAL 16mm SOUND MOTION PICTURE PROJECTION EQUIPMENT (Model "PRO"): Consists of three lightweight, portable components: a 16mm sound PROJECTOR, a 20 watt AMPLIFIER and a 25 watt capacity LOUDSPEAKER. Mazda illumination to 1000 watts with special coated condensing lens system and projection lens f/1.6 in all focal lengths up to 4 inches. Same basic 16 mm sound projector as above but including 8 watt amplifier; 5-inch, 10-watt loudspeaker; all in one case. Also available with external 25-watt loudspeaker in separate case.

PORTABLE TWO-CASE 16mm SOUND PROJECTOR. DeVry "15" Model Auditorium capacity. Projector and 15 watt amplifier in one case, 8 or 12 inch loudspeaker in separate matching case.

PORTABLE 16mm SOUND PROJECTOR ("Theatre-in-Suitcase" DeVrylite "5" model): Single case equipment, wt. approx. 31 lbs.; mazda illumination to 1,000 watts; projection lens, standard f/1.6 2 inches; sound output rated to 500 persons, more with extra loud-speaker.

DOMESTIC DISTRIBUTION: Unaffiliated dealers.

Cable Address: HERMDEVRY.

GARVER ELECTRIC CO., Union City, Ind.

Bulb type projection rectifiers.

SAVE

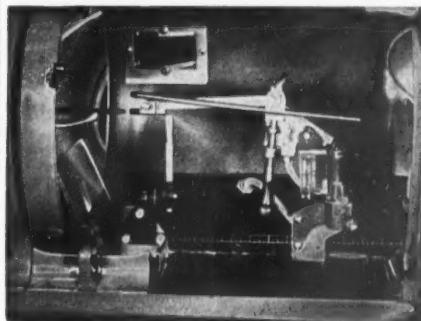
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A YEAR ON CARBONS The CRON-O-MATIC Fully Automatic CARBON SAVER

for Ashcraft "D" and "E," Brenkert Enarc, Peerless Magnarc and Strong Mogul lamps.

Burning average lengths (3 1/4") down to 3/4" saves 2 1/2" or 22.2% of the carbon cost.

Uses positive carbon stubs of any length, without preparation. When entirely consumed, the new carbon goes into use without losing the light, or otherwise affecting lamp operation.



No more "Will it burn a full reel" guessing.

Only \$52.50

If your dealer can't supply you, order direct.

PAYNE PRODUCTS CO.,

Cron-O-Matic Division
2451 W. Stadium Blvd., Ann Arbor, Mich.

- ☐ Send literature on the Cron-O-Matic.
- ☐ Ship Cron-O-Matic Carbon Saver.
- ☐ C.O.D., including postage.
- ☐ Remittance herewith.

NAME

THEATRE

STREET

CITY & STATE

EXPORT: Fraxar & Hansen, Ltd.,
San Francisco, New York, Los Angeles

Used by Leading
Circuits



"Snow White"

**MANY EXHIBITORS
ARE RESURFACING
THEIR SCREENS
TO COMBAT T. V.**

**A BRIGHT PICTURE
IS THUS ASSURED**

YOU'LL LIKE IT
IF YOU TRY IT

**NATIONAL THEATRE SCREEN
REFINISHING Co.**

129 ZENNER ST. BUFFALO 11, N. Y.
HU. 3673

Catalog data

TWELVE TUBE: 100 ampere for Angular trim, single and 3 phase.

SIX TUBE: 80 ampere for coaxial trim, single and 3 phase.

FOUR TUBE: 60 ampere for coaxial trim, single and 3 phase.

FOUR TUBE: 40 ampere for coaxial trim, single and 3 phase.

TWO TUBE: 30 ampere Low Intensity single phase.

DOMESTIC DISTRIBUTION: The Ballantyne Co., Omaha, Neb.

FOREIGN DISTRIBUTION: Streuber & LaChicotte, 1819 Broadway, New York 23, N. Y.

GENERAL ELECTRIC CO., Lamp Div., Nela Park, Cleveland 12, Ohio.

Filament projection lamps, exciter lamps.

PROJECTION LAMPS: Tungsten filament lamps in all types and sizes for motion picture and other light projection.

EXCITER LAMPS: All types and sizes for motion picture sound reproduction.

DISTRIBUTION: Theatre supply dealers and electrical distributors.

GENERAL ELECTRIC CO., 420 Lexington Ave., New York, N. Y.

Projector interlocking motors for stereoscopic projection.

Self-synchronizing ("kelsyn") motors of 60 cycles in rating of 50-ounce inch torque displacement, for driving two projectors synchronously, one connected to each projector drive motor by sprocket-and-chain attachment.

DISTRIBUTION: Theatre supply and electrical dealers, and direct.

GOLDBERG BROTHERS, P. O. Box 448, Denver 1, Colo.

Rewinders, reels, projection room cabinets and tables, sand urns, box office speaking tube.

REWINDER: Fully enclosed type, motor-driven, for diameters to 15 inches; equipped with automatic stop.

REELS: Fabricated of aluminum in 4 sizes—diameter 15 inches, hub 5 inches (2,000 feet); diameter 14 inches, hub 4 inches. Double-slot threading. Approx. wt. 2½ lbs. Aluminum 3,000 ft. 35mm., 18½" diameter and 5,000 ft. 35mm, 23" diameter.

BOOTH TABLES: Constructed of heavy angle iron, with steel top reinforced. Made in 2 sizes, 45 in. and 60 in. long. Cabinets: Fabricated of zinc-bond steel, with inner reinforcements between the one inch hollow wall that separates each section. Made from 2 to 12 section units.

SPEAKING TUBES: Chrome finish in sizes 2¼ inches to 4½ inches and 2¼ inches to 5½ inches.

SAND URNS: Bronze, red, green, blue, yellow and black.

(ALSO SEE PAGES 19, 26, 61)

DOMESTIC DISTRIBUTION: All theatre supply dealers.

GORDOS CORP., 86 Shipman St., Newark 2, N. J.

Rectifier tubes.

G-43, 15-amp.; **G-48,** 6-amp.; **G-65,** 2-amp.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

EXPORT AGENT: Bizzelle Cinema Supply Corp., 430 W. 45th St., New York.

GOLDE MANUFACTURING CO., 888 North Clark Street, Chicago, Ill.

Stereopticons, spotlights, rewinders.

STEREOPTICONS: Model No. 1043—"Air-Flo," 1000 watts, 3¼x4 slides; ship. wt. 30 lbs. Model No. 1048—all-purpose type, 1000 watts, 3¼x4, 2x2 and all other size slides; single- and double-frame film strip.

REWINDERS: Model DH—automatic 35mm, wt. 100 lbs.

SPOTLIGHTS: From 150w to 1000w, blower-cooled, six changing colors.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

Cable address: GOLCH.

GRISWOLD MACHINE WORKS, Port Jefferson, N. Y.

Film splicers.

MODEL R-2, 35mm: For 1/16- or 1/10- or 5/32-inch splice; also non-perforated type for 1/16- or 1/10- or 5/32 inch splice; also single perforated type for 1/16- for 1/10- or 5/32-inch splice.

MODEL T, 35mm: For 1/16- or 1/10- or 5/32-inch splice.

DUPLEX MODEL R-2, 35mm and 16mm: For 1/16 and 1/10-inch splice.

NON-PERFORATED MODELS: R-3 non-perforated for 16 mm, 1/16- or 1/10-inch splice; Models T, R-3, Junior for 16 mm and 8 mm, 1/16- or 1/10-inch splice.

DISTRIBUTION: Neumade Products Corp.

HANOVER CONTINUOUS CARBON BURNER COMPANY, 5 West 45th St., New York 36, N. Y.

Carbon saving devices; arc lamp jaw adaptors.

CARBON BURNER: Twin, positive carbon jaw assembly, pivoted to change over, from 1" stub, during reel.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

EXPORT AGENT: Norpat Sales, Inc., 45 West 45th St., New York 36, N. Y.

HELIOS CARBONS, INC., 122 Washington St., Bloomfield, N. J.

Projection arc carbons.

HELIOS "BIO" carbons manufactured in Germany; types and sizes for all projection arc lamp trims.

(ALSO SEE PAGE 27)

DISTRIBUTION: Exclusive distributors.

HERTNER ELECTRIC CO., 12690 Elmwood Ave., Cleveland 11, Ohio.

Motor-generators for projection arc supply.

33-VOLT ("Transverter" LV-40/80): For 1kw high-intensity arcs; 40 amp. continuous, 80 amp. changeover.

48 VOLT ("Transverter" HI): Two sizes for high-intensity arcs employing suprex carbons—HI-50/100, 50 amp. continuous, 100 amp. changeover; HI-70/140, 70 amp. continuous, 140 amp. changeover.

60 VOLT ("Transverter" HIIH): Three sizes for suprex carbon arcs and spotlight arcs, in continuous and changeover ratings of 50/100, 70/140, 100/200.

75 VOLT ("Transverter" HS 115/230) for 50-63 volt high-intensity and spot arcs. For National Excelite 55,000 type lamp, 75 volt. 115 amp continuous, 230 amp changeover, HS 115/230.

MA SPECIAL "TRANSVERTER"; 85 volts, with ampere ratings as required for motion picture projection and spotlight equipment in combination.

CONDENSER TYPE LAMP SUPPLY: CP "Transverter," 100 volts for straight high-intensity motion picture projection lamps and spotlights; ampere ratings according to requirements.

DOMESTIC DISTRIBUTION: National Theatre Supply branches.

EXPORT: National Theatre Supply Export Dept., 92 Gold St., New York 38, N. Y. Canadian distribution: General Theatre Supply Offices.

HEYER-SHULTZ, INC., Cedar Grove, N. J.

Metal projection arc lamp reflectors. Standard rhodium and "52" Aluminized metal projection arc lamp reflectors.

For use in the following lamps:

MODEL 1025: Strong Utility H; 14,000, Strong Utility A.C. 14,500 and 14,600, Strong (Early Model Mogul) A.C. and Hi, Simplex Acme Hi and Lo, Morelite Sunlite, Ballantyne Arcmaster, Peerless A.C.

MODEL 1025-T: Strong Trouper Spotlight.

MODEL 1137-A: Simplex Hi 19,000, Motiograph 19,750, Strong Utility 14,045 and 14,050 and Victory 22,000.

MODEL 1137-B: Motiograph 19,746, Strong Utility 14,046 and 14,100.

MODEL 1200: Brenkert Senarc and Radarc.

MODEL 1350-A: Standard Enarc 33½" W.D.

MODEL 1350-B: Drive In Enarc 31½" W.D.

MODEL 1350-C: Hi-Enarc 29½" W.D.

MODEL 1400-A: Peerless Magnarc, Morelite Monarc, Strong Mogul, Forest Universal, Ashcraft Model E. D. and C70, Ballantyne Lightmaster.

MODEL 1434: Same lamps as listed for model 1400-A.

MODEL 1500: Ashcraft Hydro-Arc, RCA Hy-Arc.

MODEL 1550: Motiograph Hi-Power.

MODEL 1600: Ashcraft Super-High, RCA Brite-Arc.

MODEL 1600-F: Forest Electronic Type H.

MODEL 1650: Strong Mighty "90," National "Excelite."

(Model 1434 gives 7% more center screen light than Model 1400-A).
("52" Aluminized reflector gives 15% more total screen light than Standard rhodium type, in all models).

DOMESTIC & EXPORT DISTRIBUTION: All dealers.

HAL I. HUFF MANUFACTURING COMPANY, 659 Jefferson Blvd., Los Angeles 7.

Carbon coolers and accessories.

WATER POSITIVE CARBON COOLERS: Consisting of jacket, mounted near the arc, through which the positive carbon is fed to the arc flame. Water continuously passing through the jacket cools the carbon. Made for almost all makes of lamps. Using 7mm copper coated carbons, 40 to 50 amperes may be drawn; with 8mm copper coated carbons, 62 to 68 amperes; and with 9mm non-coated carbons, 70 to 85 amperes.

RECIRCULATING WATER PUMP: Standard model #S-77 has ¼ h.p. motor; radiator, 6x8 inches, 2 inches thick; 5-blade fan; cast aluminum base; dimensions, 11½x13¼x9 inches. Deluxe model #D-88 has ½ h.p. motor; radiator, 8½x8½ inches, 2½ inches thick; 5-blade fan; 2 plastic tanks with capacity of 1½ gal. each; dimensions, 16½x21x12 inches.

ACCESSORIES: Observation and port hole glass. Water signal switch to show when water supply is not on. Carbon cushion. Negative carbon roller guide.

DISTRIBUTION: Authorized dealers.

(ALSO SEE PAGE 27)

IMPERIAL ELECTRIC CO., Akron, Ohio.

Motor-generators.

Motor-generator equipment for supply of d.c. current to all types and capacities of motion picture projection arcs.

DISTRIBUTION: Independent theatre supply dealers, and direct.

INTERNATIONAL PROJECTOR CORP., 55 La France Ave., Bloomfield, N. J.

Projectors, magazines, sound systems, in-car speakers, pedestals.

PROJECTORS: Simplex X-L professional models and Simplex Type SP semi-professional 35m sound reproducing equipment.

SOUND SYSTEMS: Simplex X-L sound system including soundhead and amplification units in assemblies, with cabinet and control panel in power amplification ratings to cover all types and sizes of indoor and drive-in type theatre installations.

PEDESTALS: Four models including two with upward tilt for drive-in theatres.

IN-CAR SPEAKERS: With General Electric 4-in. PM speaker unit; cast aluminum housing, gray lacquer finish; straight or coiled cords; junction box with or without concession signal and post light; Simplex 1950 in-a-car speakers with straight or coiled cords, junction boxes with post and dome lighting.

MAGAZINES & ACCESSORIES: Upper and lower 35mm magazines; replacement parts and accessories for Simplex projectors and sound equipment.

Catalog Data

DOMESTIC DISTRIBUTION: National Theatre Supply branches.

(ALSO SEE FOURTH COVER)

Cable Address: PRESIMPLEX and NATHESUPPLY, New York. **EXPORT:** National Theatre Supply Export Dept., 92 Gold St., New York 17, N. Y.

KOLLMORGEN OPTICAL CO., 30 Church St., New York City and 37 King St., Northampton, Mass.

Projection lenses, soundhead optical units. Focus.

SUPER SNAPLITE: Speed 1/1.9 for 35mm projectors, coated optics; sizes 2" to 4 1/4" in standard barrel 2781" O.D.; sizes 5" to 7" in large barrel 4.00" O.D.

SERIES II SNAPLITE: speed 1/2.0 for 35 mm projection, coated, sizes 3 1/4 to 5 in.; at slightly slower speeds from 5/4 to 7 in.

MONETTE: Focus scope 8x with adjustable bracket.

SOUNDHEAD OPTICAL UNITS: Straight and curved slits for 35mm and 16mm reproduction.

(ALSO SEE PAGE 61)

DOMESTIC DISTRIBUTION: All theatre supply dealers.

Cable Address: KOLLMORGEN. **EXPORT:** National Theatre Supply, Export Dept., 92 Gold St., New York.

LaVEZZI MACHINE WORKS, 4635 W. Lake St., Chicago 44, Ill.

Projector and soundhead replacement parts.

PARTS AND SUB-ASSEMBLIES for Simplex, Motiograph, Powers' projector mechanisms; sprockets for various other projectors and sound units; tools for projector repairing. Also precision parts to specifications.

(ALSO SEE PAGE 51)

DISTRIBUTION: All theatre supply dealers.

MOTIOGRAPH, INC., 4431 W. Lake St., Chicago 24, Ill.

Projectors, sound reproducing systems, projection arc lamps, motor generators, drive-in theatre in-car speakers and amplification systems.

PROJECTORS: Model AA with cylindrical rear shutter, upper and lower magazines, and pedestal in same AA series; Model S pedestal; pedestals with upward tilt for drive-in theatres.

INDOOR THEATRE SOUND SYSTEMS, M9 Series soundheads and amplification in assemblies according to seating capacities from small to over 6000, single- and dual-channel.

DRIVE-IN THEATRES SOUND SYSTEMS: Available in three series with a total of 12 models with capacity to serve theatres from 300 cars to 2000.

IN-CAR SPEAKERS: Available in durable plastic cases, with straight or coiled cords, with or without concession signal light.

REFLECTOR ARC LAMPS: Three models—1 kw., 46-ampere, 75-115-ampere.

MOTOR GENERATORS: Three models—50/100, 70/140 amps, and 125/250 amps.

DOMESTIC DISTRIBUTION: Dealers 8, 10, 13, 24, 27, 30, 32, 34, 36, 40, 42, 51, 53, 54, 57, 59, 64, 67, 70, 75, 85, 91, 100, 104, 109, 111, 115, 118, 120, 123, 129, 132.

Cable Address: FRAZEN, San Francisco. **EXPORT AGENT:** Frazer & Hansen, Ltd., 201 Clay St., San Francisco 11. Also 120 Broadway, New York 5, N. Y.

NATIONAL CARBON COMPANY, A DIVISION OF UNION CARBIDE AND CARBON CORPORATION, 30 East 42nd St., New York 17, N. Y.

Projection carbons.

Carbons for all types of motion picture projection arc lamps and other arc lamps. "National," "Suprex," "Orotip."

(ALSO SEE PAGE 6)

DISTRIBUTION: All theatre supply dealers.

NATIONAL THEATRE SCREEN REFINISHING CO., 129 Zenner St., Buffalo 11, N. Y.

Screen paint; luminous surround screen system.

SCREEN PAINT: White coating for indoor coated screens, and outside white diffusive paint for drive-in screens.

LUMINOUS SCREEN SURROUND: "Halo" system providing surface behind edge of screen illuminated by light sources concealed behind screen, projected picture spilling off screen into this lighted area, eliminating black masking.

(ALSO SEE PAGE 63)

DISTRIBUTION: For paint, theatre supply dealers and direct; "Halo" surround, National Theatre Supply.

NORPAT SALES, INC., 45 West 45th Street, New York 36, N. Y.

Voltage boosters, magnetic recording accessories, studio communications receivers. 3-D accessories and engineering services.

VOLTAGE BOOSTERS: 85/135 volts, 60 cycles, portable variable-metered transformer with input/output receptacles and cable; for loads to 1500w; suitable for theatre amplifiers and 16mm equipment.

MAGNETIC RECORDING ACCESSORIES: "Visimag" solution to make tracks visible on magnetic tape. Splicers for magnetic tape.

STUDIO COMMUNICATIONS RECEIVERS: Mobile and stationary, 30-50 MC, 72-76, 108-149, 152-163 MC, 152-174 MC.

3-D ACCESSORIES: Custom built interlocks, electrical and mechanical; 4 and 6 ft. magazines; blowers; filters; lenses; screens.

ENGINEERING SERVICES: Surveys and specifications for 3-D installations.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

Cable address: NORPACREST.

OXFORD ELECTRIC CORPORATION, 3911 S. Michigan Ave., Chicago 15.

Drive-in speaker replacement units.

MODEL 5CM-51: 5-inch speaker; all parts plated with cadmium; gasket of waterproof fiberboard used to reduce possibility of delamination under extreme conditions of humidity variance. Magnet material is Alnico V and weighs 1.47 oz.

MODEL 5BA-3: 5-inch speaker same as above except magnet weight is .68 oz. Alnico V.

MODEL 4CM-13: 4-inch speaker with cadmium plating. Has an overplate of "iridite" (dust and fungus inhibitor). Cork gasket covers face. Magnet is 1.47 oz. Alnico V sprayed with silver lacquer.

MODEL 4AM-65: 4-inch speaker version of the two 5-inch ones described above. Employs a .68 oz. Alnico V magnet.

(ALSO SEE PAGE 27)

DOMESTIC DISTRIBUTION: Direct.

EXPORT: Roburn Agencies, New York City.

THEATRE SALES CATALOG DATA: Market information on equipment and merchandise for refreshment services of both regular and drive-in theatres is presented in the **THEATRE SALES** section, beginning on page 37.

PAYNE PRODUCTS CO., 2451 W. Stadium Blvd., Ann Arbor, Mich.
Carbon savers.

"CRON-O-MATIC TYPE: Takes carbon stubs of from 1/4 to 6 in.; operates automatically in association with carbon feed; designed for adaptation to Ashcraft "D", RCA-Brenkert "Enarc," Peerless "Magna," Strong "Mogul" lamps. Carbon head constructed of heat-resisting, non-magnetic alloy.

(ALSO SEE PAGE 63)

DOMESTIC DISTRIBUTION: NTS Albany, Memphis and Denver, also unaffiliated dealers.

RCA VICTOR DIVISION, Theatre Equipment Section, Camden 2, N. J.

Sound reproducing systems, projectors, projection arc lamps, drive-in theatre in-car speakers.

REGULAR THEATRE SOUND SYSTEMS: Three basic types, each complete with rotary stabilizer soundheads, amplification, two-way horn systems—PG-215-B, PG-230-E for small theatres; PG-230-YA, PG-234-YA, for medium-sized theatres; PG-240-YA, PG-244-PA for large theatres.

DRIVE-IN THEATRE SOUND SYSTEMS: Three basic amplification systems: PG-270, single channel driver amplifier, one 70w power unit; PG-271 single channel driver with two 70w power units; PG-272, single channel driver with four 70w power units; PG-275, dual channel driver with two 70w power units; PG-276, dual channel driver with four 70w power units.

IN-CAR SPEAKERS AND JUNCTION BOXES: Die-cast aluminum housing with "Starlight" finish ("K" series) or natural aluminum finish ("T" series). Speakers—MI-943K or MI-943T, with neoprene-jacketed straight cable; MI-942AK or MI-942AT with Kooled-Kord; MI-942CK or MI-942CT with 1-conductor theft-resistant cable. Junction Boxes—MI-949K or MI-949T standard; MI-949AK or MI-949AT, with built-in dual beam roadway and post light; MI-949AG (green) and MI-949AR (red), with translucent lighted cover and post and roadway lighting. Speaker Baskets—MI-965 aluminum speaker basket.

PROJECTORS—Two basic types—RCA "100" for large theatres; double rear shutter, automatic lubrication, extra visibility in operating compartment and on gear side. RCA "60" for medium and small theatres; automatic lubrication, double (RCA "62") or single shutter.

D.C. CONDENSER ARC LAMPS: Brenkert "Super-tensity" for 180-amp. National HiTex carbons.

TO HELP YOU MAKE A BETTER SHOWING



**BESTEEL
SILENT STEEL
FENESTEL
CURTAIN TRACKS**

**AUTODRAPE • SILVER SERVICE
and Stop-Start & Reverse
CURTAIN MACHINES**

In your remodeling plans, don't overlook the importance of ADC Curtain Track & Curtain Control Machines—a prime requirement for smooth, effortless operation and dependable performance.



NEW!—"Back-Pack" Guide
Write for further information

**AUTOMATIC
DEVICES COMPANY**

116 N. 8th St.

Allentown, Pa.

"We support the most celebrated curtains in the world"

Catalog Data

D.C. REFLECTOR ARC LAMPS: RCA Enarc, RCA Brite-Arc, RCA Hy-Arc.

THEATRE SCREENS: "Snowwhite" line of vinyl plastic, light- or heavy-weight, with perforations either uniform or ("Evenlite") graduated in number from center toward edges. Also the following:

"SYNCHRO-SCREEN" MASKLESS TYPE: Prefabricated structure, with screen, applying the Schlanger-Hoffberg luminous surround system eliminating border.

DOMESTIC DISTRIBUTION: Theatres supply dealers marked with asterisk on page 60.

EXPORT: RCA International Div., 30 Rockefeller Plaza, New York City.

RAYTONE SCREEN CORP., 165 Clermont Ave., Brooklyn, N. Y.

Motion picture screens, drive-in screen paint.

NO. 37 SCREEN: Vinyl-coated, flat white, diffusive; any size to order; rated brightness at 1.5 degrees .96; whiteness ratio .93, reflectance factor .85; grommets fastened through screen material and webbing. Can be shipped folded.

"PANTEX" SCREEN: All vinyl film, flat white diffusive; rated brightness at 1.5 degrees .106; whiteness ratio .93, reflectance factor .85; grommets fastened through screen material and all vinyl webbing. Tearproof. Can be shipped folded.

DRIVE-IN SCREEN PAINT: (See listing under Drive-in Theatre Equipment)

(ALSO SEE PAGES 23 & 25)

DOMESTIC DISTRIBUTION: All theatre supply dealers.

EXPORT AGENT: Westrex Corp., 111 Eighth Ave., New York City.

J. E. ROBIN, INC., 267 Rhode Island Ave., East Orange, N. J.

Motor-generators, rectifiers, d. c. for projection arc supply.

ROBIN-ESCO SUPER POWER: Motor generators, 50 to 400 amperes.

RECTIFIERS: Selenium type, 3- and 6-phase, all regular projection arc amperages; 22x14 in., 32 in. high; approx. ship. wt. 120 lbs.

(ALSO SEE PAGE 17)

DOMESTIC DISTRIBUTION: Unaffiliated dealers.

EXPORT ADDRESS: JEROBIN.

B. F. SHEARER CO., 2318 Second Ave., Seattle 1, Wash.

Motion picture screens.

CYCLORAMIC "Dimensional" screens of three-ply porous fabric (imperforated).

DOMESTIC DISTRIBUTION: Franchise theatre supply dealers.

EXPORT AGENT: Frazer & Hansen, Ltd., 301 Clay St., San Francisco 11; distributed in Canada by Dominion Sound Equipment branches.

STRONG ELECTRIC CORP., 87 City Park Ave., Toledo, Ohio.

Projection arc lamps, reflectors, rectifiers, spotlights.

LAMPS: High-Intensity—"Utility" 1kw. "Junior High" 1kw.; "Utility" 46-amp. and 50-amp.; "Mogul" 70-amp.; "Mighty-Ninety" 80-125 amp. Low-Intensity—"Utility" 18-30 amp.; portable 15-18 amp. For longer arc projection—"Junior High" 16 mm high-intensity.

RECTIFIERS: Tungar tube equipment in 40-amp., single-phase; 50-amp., single- and 3-phase; 70-amp. single- and 3-phase; 85-amp., single- and 3-phase; 90 amp. single and 3-phase for angle trim lamps and in 15 (portable), 20 and 30 amps.

REFLECTORS: Elliptical glass mirrors for all stand arc reflector arc projection lamps.

SPOTLIGHTS: Trouper model carbon arc automatic high-intensity light projectors mounted on pedestal for flexible follow of performance, adjustable from spot to

flood. Also Trouperette model mazda spotlight and slide projector.

(ALSO SEE PAGE 7)

DOMESTIC DISTRIBUTION: Dealers: 1, 2, 3, 4, 7, 8, 9, 12, 13, 14, 17, 19, 20, 21, 22, 24, 25, 26, 27, 28, 30, 32, 34, 36, 39, 40, 41, 42, 44, 46, 47, 48, 49, 51, 52, 54, 55, 56, 57, 58, 59, 60, 62, 63, 64, 66, 67, 70, 72, 75, 76, 77, 78, 79, 80, 81, 84, 86, 91, 92, 93, 97, 98, 101, 103, 105, 106, 107, 108, 109, 111, 113, 114, 115, 116, 117, 118, 119, 122, 123, 125, 129, 130, 131, 132, 133.

Cable Address: STRONGLAMP. **EXPORT:** Export mgr., home office.

TELESONIC THEATREPHONE CORP., 3 E. 48th St., New York 17, N. Y.

Theatre hearing aid equipment.

Consists of network of low-voltage wire surrounding seat area and connected to theatre sound amplifier; deafened patron tunes small receiving unit into field.

DISTRIBUTION: Direct.

VOCALITE SCREEN CORP., 19 Debevoise Ave., Roosevelt, N. Y.

Projection screens.

MATTE WHITE, DIFFUSIVE, PERFORATED: Vinyl Plastic mold and fungus proof, flameproof, screens: Audio-Lite, Super-Lite, Suprex, "Super-white," H-Lite.

BEADED: Glass beaded porous fabric, flameproof "Vocalite" and "Perma-Lite."

RESURFACERS: Chromoloid white coating, plastic base, flameproof; Silverlite metallic base paint for silverscreen surface. Drive-in screen paints.

UPHOLSTERY: Plastic Seat: Washable, flame resistant "Plasticover."

(SEE ALSO PAGE 61)

DOMESTIC DISTRIBUTION: All theatre supply dealers.

EXPORT AGENTS: Streuber & La Chicotte, Inc., 1819 Broadway, New York 23, N. Y.

WALKER AMERICAN CORP., 800 Beaumont St., St. Louis, Mo.

Projection screens.

SOUND SCREENS in 5 types: P. M. White, "PM" Silver, High-Intensity, coated fabric White, Vinyl Plastic.

DOMESTIC DISTRIBUTION: National Theatre Supply branches.

EXPORT: National Theatre Supply, Export Dept., 92 Gold St., New York.

WENZEL PROJECTOR CO., 2905 S. State St., Chicago 16, Ill.

Projector soundheads, pedestals, rewinders, projectors and soundhead parts, projection accessories, amplifiers and speakers.

PROJECTOR: PRO-50 de luxe model; PRO-4 standard model. Both models with rear shutters, double bearing movements, spiral gears.

SOUND EQUIPMENT: Soundheads, amplifiers and speakers. Amplifiers for drive-ins.

ASSEMBLIES: Rear shutter attachments; B B intermittent movements.

PARTS: Sprockets for projectors and soundheads; replacement parts for Wenzel; Simplex type; Powers 6B type; and others. Carbon savers for low-intensity and suprex type lamps. Parts for low-intensity lamp-houses of various types.

REPAIR TOOLS: Sprocket puller; pin pushers; V blocks; punches; repair hammers; reamers; running-in stands.

REWINDERS: Various hand models for 8, 16 and 35mm. 35mm motor driven enclosed PRO-62. Special rewinds as per customer's specifications.

MAGAZINES: 18" standard upper and lower magazines; 18" de luxe deep type upper and lower magazines; 24" magazines, upper and lower for 5700' film; upper magazines for Powers 6B.

PEDESTALS: Five point L type; Wenzel de luxe base WB-600; Wenzel #1500 and #1800 light weight; enclosed type.

DOMESTIC DISTRIBUTION: Authorized theatre supply dealers.

WESTINGHOUSE ELECTRIC CORP., Lamp Division, Bloomfield, N. J.

Filament projectoin lamps and exciter lamps.

Filament projection light sources for operation on standard line voltage, 100-1500 watts; biplane filament lamps with medium prefocus base requiring forced ventilation, 300-1000 watts.

Photocell exciter lamps in standard types.

DISTRIBUTION: Theatre supply dealers, or consult nearest Westinghouse Lamp Div. office.

WESTREX CORP., 111 Eighth Ave., New York 11, N. Y.

Sound reproducing and recording equipment; distributes complete theatre equipment outside U. S.

COMPLETE SOUND SYSTEMS: Three series—Master, deluxe style for all sizes of theatres; Advanced, medium price range for all sizes of theatres, Standard, for smaller theatres. All systems with "Hydro Flutter Suppressor" in soundhead; amplifiers mounted in floor type cabinets; speaker systems including Western Electric theatre loudspeakers.

SOUNDHEADS: Designed for use with leading makes of projectors; "Hydro Flutter Suppressor" reduces mechanical flutter to only .07%; constant film speed maintained by "Electro-Tension Governor" operating on magnetic principle; "Equilight Diffuser" for equal illumination of photocell for both variable density and variable area recordings; plug-in pre-amplifier mounted on chassis, push-button changeover, straight line drive, hand wheel for threading.

AMPLIFIERS: Complete series of units with output 15w to 100w; mounted with rectifiers, control and meter panels in floor cabinets with illuminated white enamel interior; harmonic distortion rated 1% over 1000 cycles, 2% at extreme low end; separate fuse and switching panel controls power line circuits; power supply panel each amplifier; rectifier for each exciter lamp; switch for emergency operation on a.c.; monitor amplifier separate unit with provisions for hearing aids, accessory speakers, monitor. 100w amplifier a single unit with straightforward class "A" push-pull stages.

LOUDSPEAKER SYSTEMS: Five systems. High-frequency horns for auditorium coverage 50°, 80°, 100°; speakers include 754A low-frequency speaker, 713B high-frequency unit, associated sectoral horn; new system using same speaker units and compact horn-baffle for economy installations.

SOUND SYSTEMS ATTACHMENTS: non-synchronous turntable; hearing aid; projection room and stage announcing.

PUBLIC ADDRESS: Systems for all sound reinforcement purposes using components made by Western Electric and other recognized manufacturers.

(ALSO SEE PAGE 4)

BRANCH: Hollywood Division, 6601 Romaine St., Hollywood 38, Calif.

DISTRIBUTION: Westrex sound reproducing equipment and complete theatre equipment of other manufacture, distributed outside U. S. only, through subsidiaries in principal countries. (Recording equipment distributed throughout world including U. S.)

Catalog Data

WILLIAMS SCREEN CO., 1679 Summit Lake Blvd., Akron 7, Ohio.

Motion picture screens.

WHITE and **SILVER** seamless screens to 20x25½ ft.

(ALSO SEE PAGE 26)

DOMESTIC DISTRIBUTION: The Ballantyne Co., 1707 Davenport St., Omaha, Neb., or direct.

(For Seating see Auditorium Chairs)

Stage Rigging And Curtain Controls

AUTOMATIC DEVICES CO., 116 N. 8th St., Allentown, Pa.

Curtain control equipment.

CONTROLS: No. 145, ¼-h.p. resilient for medium wt. curtains, track to 50 ft.; No. 200, ¼-h.p. for heavy curtains, track over 50 ft.; No. 93 "Junior," ¼-h.p. track to 40 ft. Also steel machine stand, 22 in. high. No. 67 "Tom Thumb," track to 16 ft., for lightweight curtains.

TRACK: Two types of 14-gauge steel, Nos. 280 and Special 250 for any wt. or span; No. 170 for medium curtains, tracks to 36 ft.

(ALSO SEE PAGE 65)

DISTRIBUTION: All theatre supply dealers, scenic studios and drapery houses.

Cable Address: GERKINETO. **Export Office:** 220 W. 42nd St., New York.

J. R. CLANCY, INC., 1010 W. Belden Ave., Syracuse, N. Y.

Stage hardware and rigging.

COMPLETE MECHANICAL EQUIPMENT FOR STAGES: Including rigging, hardware, asbestos and other curtains and draperies, with stage installation design service.

ELEVATORS: Designed and built to specifications, for lifting orchestra or consoles into pit or on to stage.

DOMESTIC DISTRIBUTION: Direct.

Cable Address: CLANCYCO. **EXPORT:** Westrex Corp., 111 Eighth Ave., New York 11, N. Y.

VALLEN, INC., 225 Bluff St., Akron, Ohio.

Curtain control equipment.

CONTROLS AND TRACKS for every curtain operating need. Multiple Drape Operators. Equipment for preview rooms, wall curtains, panorama windows, glass wall curtains. Midget Operators.

DISTRIBUTION: All theatre supply dealers and scenic studios.

(For Stage Lighting Equipment see Lighting)

Television, Theatre Screen

GENERAL PRECISION LABORATORIES, Pleasantville, N. Y.

Direct-instantaneous and intermediate systems.

DIRECT PROJECTION: Instantaneous reproduction. TV image projected via Schmidt optics to theatre screens up to 24 feet wide.

FILM-INTERMEDIATE: TV image photographed on motion picture film, which is then automatically developed and projected to the theatre screen with time lag under 1 min., Available for 16mm film.

DOMESTIC DISTRIBUTION: National Theatre Supply.

PARAMOUNT PICTURES CORP., 1501 Broadway, New York City.

Intermediate system.

TV image photographed on standard motion picture film, which is automatically developed and projected; time lag less than 1 min.; 16mm. and 35mm.

DOMESTIC DISTRIBUTION: Century Projector Corporation, 729 Seventh Avenue, New York, N. Y.

RADIO CORPORATION OF AMERICA, Theatre Equipment Div., Camden, N. J.

Direct-instantaneous and intermediate systems.

DIRECT PROJECTION: Instantaneous reproduction, TV image projected via Schmidt optics to theatre screens up to 24 feet wide.

FILM-INTERMEDIATE: TV image photographed on motion picture film, which is automatically developed and projected; time lag under 1 min.; two types, for 35mm and 16mm film.

DOMESTIC DISTRIBUTION: Dealers marked with asterisk on page 74.

TRAD TELEVISION CORP., 1001 First Ave., Asbury Park, N. J.

Direct-instantaneous system.

Instantaneous reproduction, TV image projected optics, to theatre screens up to 24 feet wide at distances up to 150 feet. Continuity of performance protected by duplicate-channel picture tube, Schmidt optics, video sweep circuits, and high-voltage and low-voltage power circuits.

DOMESTIC DISTRIBUTION: Motiograph, Inc., 4431 W. Lake Street, Chicago 24, Ill.

Ticket Sales and Admission Control

BRANDT AUTOMATIC CASHIER CO., Watertown, Wis.

Coin changing equipment.

MODEL 251: Depression of one key makes change from penny to a dollar, inclusive. Coins roll on edge quickly and with minimum clatter down delivery chute to cup. Chute may be set at any point within radius of 180° on either side of the machine. An automatic control prevents short changing when the supply of coins is too low for proper payment.

MODEL 131: Amounts involving pennies require depression of two keys.

DOMESTIC DISTRIBUTION: Through appointed sales representatives; direct inquiries to manufacturer

COINOMETER CORPORATION, 1223 South Wabash Ave., Chicago 5, Ill.

Coin changing machines.

SERIES '53 "A": Direct-paying type, with integral penny keys, combining odd amounts in one operation; also four special keys for split change of 10, 25, 50 cents and dollar.

SERIES '53 "B": Changer type, requiring only depression of keys of admission price; keys arranged by color for changing dollar, 50c, 25c or 75c, and penny change.

SERIES '53 "D": For operations requiring no pennies; otherwise direct changer type like Model "B."

DISTRIBUTION: Direct.

METAL PRODUCTS ENGINEERING, INC., 45 West 45th Street, New York 36, N. Y.

Coin changing equipment.

SEMI-AUTOMATIC COIN CHANGER (M. P. Jr. Model): Operates with thumb pressure, which ejects a single coin into the palm. Holds coins from 1¢ to 50¢. Has removable top tray and hidden inner-storage box. Heavy gauge aluminum body. Standard model has capacity of \$155; smaller model, \$125.

DISTRIBUTION: Norpat Sales, Inc., 45 West 45th St., New York 19, N. Y.

(ALSO SEE THIS PAGE)

DOMESTIC DISTRIBUTION: Authorized dealers (name for specific territory on request from manufacturer).

GENERAL REGISTER CORP., 43-01 22nd St., Long Island City 1, N. Y.

Admission Control Equipment.

ELECTRIC TICKET ISSUING MACHINE: Motor-driven, automatic issue, 1 to 5 tickets from each unit simultaneously or individually; constructed in units, with housing accommodating 1 to 5; deal plate dimensions—12 in. wide, 1 to 3 units; 15 in. 1 to 2. Ship. wt. from 135 (1 unit) to 190 lbs.

MECHANICAL TICKET ISSUING MACHINE: Same design and dispensing as above, but by mechanical action.

TICKET TAKER BOX: Manually operated ticket collection machine which automatically collects and files ticket stubs in the sequence of their collection. Final record sealed and divided by time and personnel; capacity of box 14,000 tickets; 17" wide, 14½" deep, 42" high; ship. wt. 160 lbs.

TICKET TAKER BOX SPECIAL: The function the same as above but made to special size and design for Drive-In and other particular work.

BRANCHES: 1018 Wabash Ave., Chicago 5.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

GOLDE MANUFACTURING CO., 4888 North Clark Street, Chicago 10, Ill.

Admission equipment

TICKET DISPENSERS: From one to four units.

TICKET BOXES: Red, blue, burnt orange.

DOMESTIC DISTRIBUTION: All theatre supply dealers.

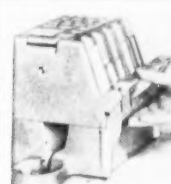
Uniforms

MAIER-LAVATY CO., 2141 Lincoln Ave., Chicago, Ill.

Theatre staff uniforms.

Complete coat and trouser uniforms, caps, for ushers, doormen, ticket-takers. Uniform topcoats and overcoats for doormen. Jacket and skirt uniforms, dresses for usherettes. Cashier jackets in two-ply 10 oz. all wool worsted tropicals, 13 oz. gabardines and 14 and 15 oz. serges.

DISTRIBUTION: Direct.



**MP JR.
COIN
CHANGER**

\$63 plus tax ★ ROLL-OUT BASE

**LIGHTER
SMALLER
WRITE FOR DATA:
NORPAT
SALES, INC.**

45 West 45th Street
N. Y. 36, N. Y., U. S. A.

\$2250 extra plus tax

Converts any M. P. Jr. to low cost, roll-out unit, where speed is essential. A boon to tellers and cashiers (especially women) for easier, faster coin handling.

THEATRE SUPPLY DEALERS IN THE UNITED STATES



ALABAMA

1—Queens Feature Service, 1912½ Morris Ave., Birmingham.

ARIZONA

2—Girard Theatre Supply, 532 W. Van Buren St., Phoenix.

ARKANSAS

3—Theatre Supply Co., 1021 Grand Ave., Fort Smith.
4—Perrin Theatre Supply, 1006 Main St., Little Rock.

CALIFORNIA

Fresno:

5—Midstate Theatre Supply, 1906 Thomas.

Los Angeles:

6—John P. Filbert, 2007 S. Vermont Ave.*
National Theatre Supply, 1961 S. Vermont Ave.
7—Pembrea Theatre Supply, 1969 S. Vermont Ave.
8—B. F. Shearer, 1964 S. Vermont Ave.

San Francisco:

National Theatre Supply, 255 Golden Gate Ave.
9—Preddy Theatre Supplies, 187 Golden Gate Ave.
10—B. F. Shearer, 243 Golden Gate Ave.
11—Western Theatrical Equipment, 337 Golden Gate Ave.*

COLORADO

Denver:

12—Graham Brothers, 548 Lincoln St.
National Theatre Supply, 2111 Champa St.
13—Service Theatre Supply, 2054 Broadway.
14—Western Service & Supply, 2120 Broadway.*

CONNECTICUT

New Haven:

National Theatre Supply, 122 Meadow St.

DISTRICT OF COLUMBIA (Washington)

15—Brient & Sons, 925 New Jersey Ave., N. W.*
16—Ben Lust, 1001 New Jersey Ave., N. W.

FLORIDA

17—Joe Hornstein, 714 N. E. 1st St., Miami.
18—Southeastern Equipment, 206 E. Bay St., Jacksonville.*
19—United Theatre Supply, 110 Franklin St., Tampa.
20—United Theatre Supply, 329 W. Flagler St., Miami.*

GEORGIA

Albany:

21—Dixie Theatre Service & Supply, 1010 N. Slappey Dr.

Atlanta:

22—Capital City Supply, 161 Walton St., N. W.
National Theatre Supply, 187 Walton St., N. W.
23—Southeastern Theatre Equipment, 201-3 Luckie St., N. W.*
24—Wil-Kin Theatre Supply, 301 North Ave., N. E.

ILLINOIS

Chicago:

25—Abbott Theatre Supply, 1311 S. Wabash Ave.*
26—G. O. Anders Co., 317 S. Sangamon St.
27—Gardner Theatre Service, 1235 S. Wabash Ave.
28—Movie Supply, 1318 S. Wabash Ave.
National Theatre Supply, 1323 S. Wabash Ave.

INDIANA

Evansville:

29—Evansville Theatre Supply, 2900 E. Chandler Ave.

Indianapolis:

30—Ger-Bar, Inc., 442 N. Illinois St.
31—Mid-West Theatre Supply Company, 448 N. Illinois St.*
National Theatre Supply, 436 N. Illinois St.

IOWA

Des Moines:

32—Des Moines Theatre Supply, 1121 High St.
National Theatre Supply, 1102 High St.

KANSAS

Wichita:

33—Southwest Theatre Equipment, P. O. Box 2138.

KENTUCKY

Louisville:

34—Falls City Theatre Equipment, 427 S. Third St.
35—Hadden Theatre Supply, 209 S. 3rd St.

LOUISIANA

New Orleans:

36—Hodges Theatre Supply, 1309 Cleveland Ave.
37—Johnson Theatre Service, 223 S. Liberty St.
National Theatre Supply, 220 S. Liberty St.
38—Southeastern Theatre Equipment, 214 S. Liberty St.*

Shreveport:

39—Alon Boyd Theatre Equipment, P. O. Box 362.

MARYLAND

Baltimore:

40—J. F. Duman Co., 12 East 25th St.
National Theatre Supply, 417 St. Paul Place.

MASSACHUSETTS

Boston:

41—Capitol Theatre Supply, 28 Piedmont St.*
42—Joe Cifre, 44 Winchester St.
43—Independent Theatre Supply, 28 Winchester St.
44—Massachusetts Theatre Equipment, 20 Piedmont St.
National Theatre Supply, 37 Winchester St.
45—Standard Theatre Supply, 78 Broadway.
46—Theatre Service & Supply, 30 Piedmont St.

MICHIGAN

Detroit:

47—Amusement Supply, 208 W. Montclair St.
48—Ernie Forbes Theatre Supply, 214 W. Montclair St.
49—McArthur Theatre Equipment, 454 W. Columbia St.
National Theatre Supply, 2312-14 Cass Ave.
50—United Theatre Equipment, 106 Michigan St., N. W.

Grand Rapids:

51—Ringold Theatre Equipment, 106 Michigan St., N. W.

MINNESOTA

Minneapolis:

52—Elliott Theatre Equipment, 1110 Nicollet Ave.
53—Frosch Theatre Supply, 1111 Currie Ave.*
54—Minneapolis Theatre Supply, 75 Glenwood Ave.
National Theatre Supply, 56 Glenwood Ave.
55—Western Theatre Equipment, 45 Glenwood Ave.

MISSOURI

Kansas City:

56—Missouri Theatre Supply, 115 W. 18th St.*
National Theatre Supply, 223 W. 18th St.
57—Shrew Theatre Supply, 217 W. 18th St.
58—Stebbins Theatre Equipment, 1804 Wyandotte St.

St. Louis:

59—McCarthy Theatre Supply, 3330 Olive St.
National Theatre Supply, 3212 Olive St.
60—St. Louis Supply Co., 3310 Olive St.*

MONTANA

61—Montana Theatre Supply, Missoula.

NEBRASKA

Omaha:

62—Ballantyne Co., 1712 Jackson St.
National Theatre Supply, 1610 Davenport St.
63—Quality Theatre Supply, 1515 Davenport St.
64—Western Theatre Supply, 214 N. 15th St.*

NEW MEXICO

65—Eastern New Mexico Theatre Supply, Box 1009, Clovis.

NEW YORK

Albany:

66—Albany Theatre Supply, 443 N. Pearl.
National Theatre Supply, 962 Broadway.

Auburn:

67—Auburn Theatre Equipment, 5 Court St.

Buffalo:

68—Becker Theatre Equipment, 492 Pearl St.
69—Eastern Theatre Supply, 496 Pearl St.*
National Theatre Supply, 498 Pearl St.
70—Perkins Theatre Supply, 505 Pearl St.
71—United Projector & Film, 228 Franklin St.

New York City:

72—Amusement Supply, 341 W. 44th St.
73—Capitol Motion Picture Supply, 630 Ninth Ave.*
74—Crown Motion Picture Supplies, 354 W. 44th St.
75—Joe Hornstein, 630 Ninth Ave.
National Theatre Supply, 356 W. 44th St.
76—S. O. S. Cinema Supply, 602 W. 32nd St.
77—Star Cinema Supply, 441 W. 50th St.

Syracuse:

78—Central N. Y. Theatre Supply, 210 N. Salica St.

NORTH CAROLINA

Charlotte:

79—Bryant Theatre Supply, 227 S. Church St.
80—Charlotte Theatre Supply, 116 S. Poplar.
81—Dixie Theatre Supply, 213 W. 3rd St.
National Theatre Supply, 304 S. Church St.
82—Southeastern Theatre Equipment, 209 S. Poplar St.*
83—Standard Theatre Supply, 219 S. Church St.
84—Theatre Equipment Co., 220 S. Poplar St.
85—Wil-Kin Theatre Supply, 229 S. Church St.

Greensboro:

86—Standard Theatre Supply, 215 E. Washington St.
87—Theatre Suppliers, 304 S. Davis St.

OHIO

Akron:

88—Akron Theatre Supply, 120 E. Market St.

Cincinnati:

89—Mid-West Theatre Supply, 1638 Central Parkway.*
National Theatre Supply, 1657 Central Parkway.
90—Theatre Equipment Co., 1714 Logan St.

Cleveland:

National Theatre Supply, 2128 Payne Ave.
91—Ohio Theatre Equipment, 2108 Payne Ave.
92—Oliver Theatre Supply, E. 23rd and Payne Ave.*

Columbus:

93—American Theatre Equipment, 165 N. High St.
94—Mid-West Theatre Supply, 862 W. Third Ave.

Dayton:

95—Dayton Theatre Supply, 111 Volkenand St.
96—Sheldon Theatre Supply, 627 Salem Ave.

Toledo:

97—American Theatre Supply, 439 Dorr St.
98—Theatre Equipment Co., 1206 Cherry St.

OKLAHOMA

Oklahoma City:

99—Century Theatre Supply Co., 20 N. Lee St.
100—Howell Theatre Supplies, 12 S. Walker Ave.
National Theatre Supply, 700 W. Grand Ave.
101—Oklahoma Theatre Supply, 628 W. Grand Ave.*

OREGON

Portland:

102—Modern Theatre Supply, 1935 N. W. Kearney St.*
103—Portland Motion Picture Supply, 916 N. W. 19th St.
104—B. F. Shearer, 1947 N. W. Kearney St.
105—Theatre Utilities Supply, 1987 N. W. Kearney St.
106—Inter-State Theatre Equipment, 1923 N. W. Kearney St.

PENNSYLVANIA

Philadelphia:

107—Blumberg Bros., 1305-07 Vine St.*
National Theatre Supply Co., 1225 Vine St.

Pittsburgh:

108—Alexander Theatre Supply, 84 Van Bramm St.*
109—Atlas Theatre Supply, 402 Millenberger St.
National Theatre Supply, 1721 Blvd. of Allies.
110—Superior Motion Picture Supply, 84 Van Bramm St.

Wilkes Barre:

111—Vincent M. Tate, 1620 Wyoming Ave., Forty-Fort.

RHODE ISLAND

112—Rhode Island Supply, 357 Westminster St., Providence.

SOUTH DAKOTA

113—American Theatre Supply, 316 S. Main St., Sioux City.

TENNESSEE

Memphis:

114—Monarch Theatre Supply, 492 S. Second St.*
National Theatre Supply, 412 S. Second St.
115—Tri-State Theatre Supply, 318 S. Second St.

TEXAS

Dallas:

116—Hardin Theatre Supply, 714 South Hampton Rd.
117—Herber Bros., 408 S. Harwood St.
118—Modern Theatre Equipment, 1910 Jackson St.
National Theatre Supply, 300 S. Harwood St.
119—Southwestern Theatre Equipment, 2010 Jackson St.*

Houston:

120—Southwestern Theatre Equipment, 1622 Austin St.*

San Antonio:

121—Alamo Theatre Supply, 1303 Alamo St.

UTAH

Salt Lake City:

122—Intermountain Theatre Supply, 264 E. First South St.
123—Service Theatre Supply, 256 E. First South St.
124—Western Sound & Equipment, 264 E. First South St.*

VIRGINIA

125—Norfolk Theatre Supply, 2700 Colley Ave., Norfolk.

WASHINGTON

Seattle:

126—American Theatre Supply, 2300 First Ave., at Bell St.
127—Inter-State Theatre Equipment Co., 2224 Second Ave.
128—Modern Theatre Supply, 2400 Third Ave.*
National Theatre Supply, 2319 Second St.
129—B. F. Shearer, 2318 Second Ave.

WEST VIRGINIA

130—Charleston Theatre Supply, 506 Lee St., Charleston.

WISCONSIN

Milwaukee:

131—Manhardt Co., 1705 W. Clybourn St.*
National Theatre Supply, 1027 N. Eighth St.
132—Ray Smith, 710 W. State St.
133—Theatre Equipment & Supply, 641 N. Seventh St.

Push-Back's Easy "IN-and-OUT" Convenience Will Boost Your Concession Sales!



1—Here's the normal, comfortable position of the Push-Back Auditorium Seat.



2—Seated persons need not stand. A gentle movement of the body slides the seat back.



3—Relax, chair slides back to normal, comfortable position. No standing up. No inconvenience.

Make it easy for your patrons to buy more popcorn, candy, and soft drinks by installing modern Kroehler Push-Backs. Their easy "In-and-Out" features eliminate all inconvenience and embarrassment of patrons' visits to and from your concession stands.

Get the complete story of the new Kroehler idea of "showmanship in seating." See why new Kroehler Push-Back* Theatre Seats will pay off in word-of-mouth advertising for you . . . and in cash at the box office. Please write nearest office.

KROEHLER

Push-Back

THEATRE SEATS

THE WORLD'S FINEST THEATRE SEATS

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New York 16, N. Y.
One Park Avenue

Inglewood 7, Calif.
311 West Florence

Dallas, Texas
2023 Jackson St.

"Neither

**RAIN, NOR SLEET,
NOR HEAT OF DAY..."**

Simplex
T.M. REG. U.S. PAT. OFF.

IN-A-CAR SPEAKERS

PROVED EFFECTIVE*

IN ALL WEATHER!



* By General Electric, at Electronics Park

To get a true picture of the on-the-job qualities of SIMPLEX IN-A-CAR SPEAKERS, a number of speakers were taken directly from stock and subjected to the toughest test of all . . . two full years of day and night exposure to the weather's worst — sun, wind, rain, and cold.

At the end of the two years, these speakers were given a rigorous performance test . . . and they still sounded clear and loud enough to be in the radio in your home!

Isn't this exactly what you want? Year-in, year-out quality, without worrying about the cost of repairs and premature replacement? Your good business sense tells you to specify . . .

Simplex
T.M. REG. U.S. PAT. OFF.

IN-A-CAR SPEAKERS

- **Manufactured by International Projector Corporation**
- **Distributed by National Theatre Supply**